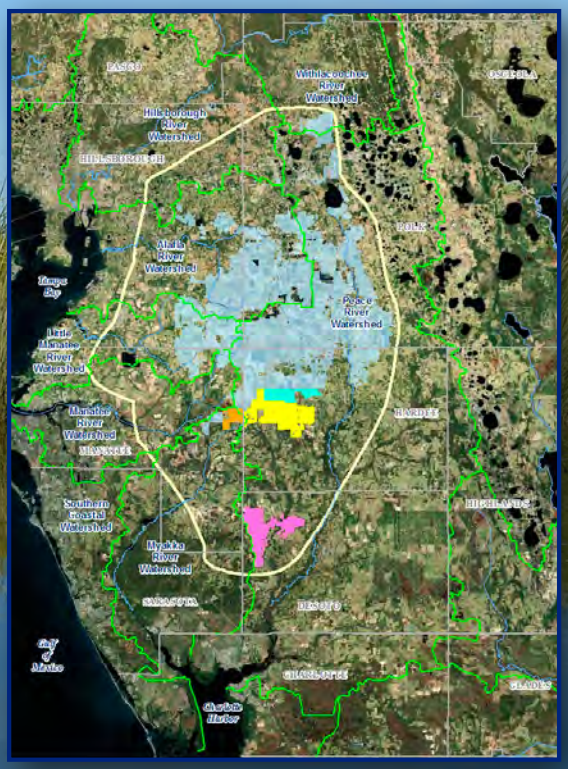
# Appendix A
# Public Comments on the Draft AEIS on Phosphate Mining in the CFPD





# Appendix A

## Public Comments on the Draft AEIS on Phosphate Mining in the CFPD

Appendix A consists of three parts:

- Public comment letters received during the Draft AEIS comment period
- Applicant comment letters and associated tables received during the Draft AEIS comment period
- Comment and response tables

**Public Comment Letters:** These are in the first section of Appendix A. Comments on the Draft AEIS were submitted as letters, emails, postcards, and database submissions. They are referred to generically as letters. Each comment letter was assigned a unique submission number, shown at the top of the page, and comments within a submission were assigned unique comment numbers. Where attachments, such as exhibits, scientific articles, pamphlets, and research papers, were submitted with the comment letter, they are noted following the submission number. In some instances, submission numbers for the attached letters are not sequential, because there were duplicate and "test" submissions which were assigned submission numbers but are not included in this appendix.

**Applicant Comment Letters:** Comment letters and tables received from the Applicants are provided in the second section of Appendix A.

**Comment and Response Tables:** These tables contain comments extracted from the letters and their associated responses. The public and CF Industries comments and responses are organized by the major categories shown below and Mosaic comments are organized by AEIS chapter, consistent with their submission format.

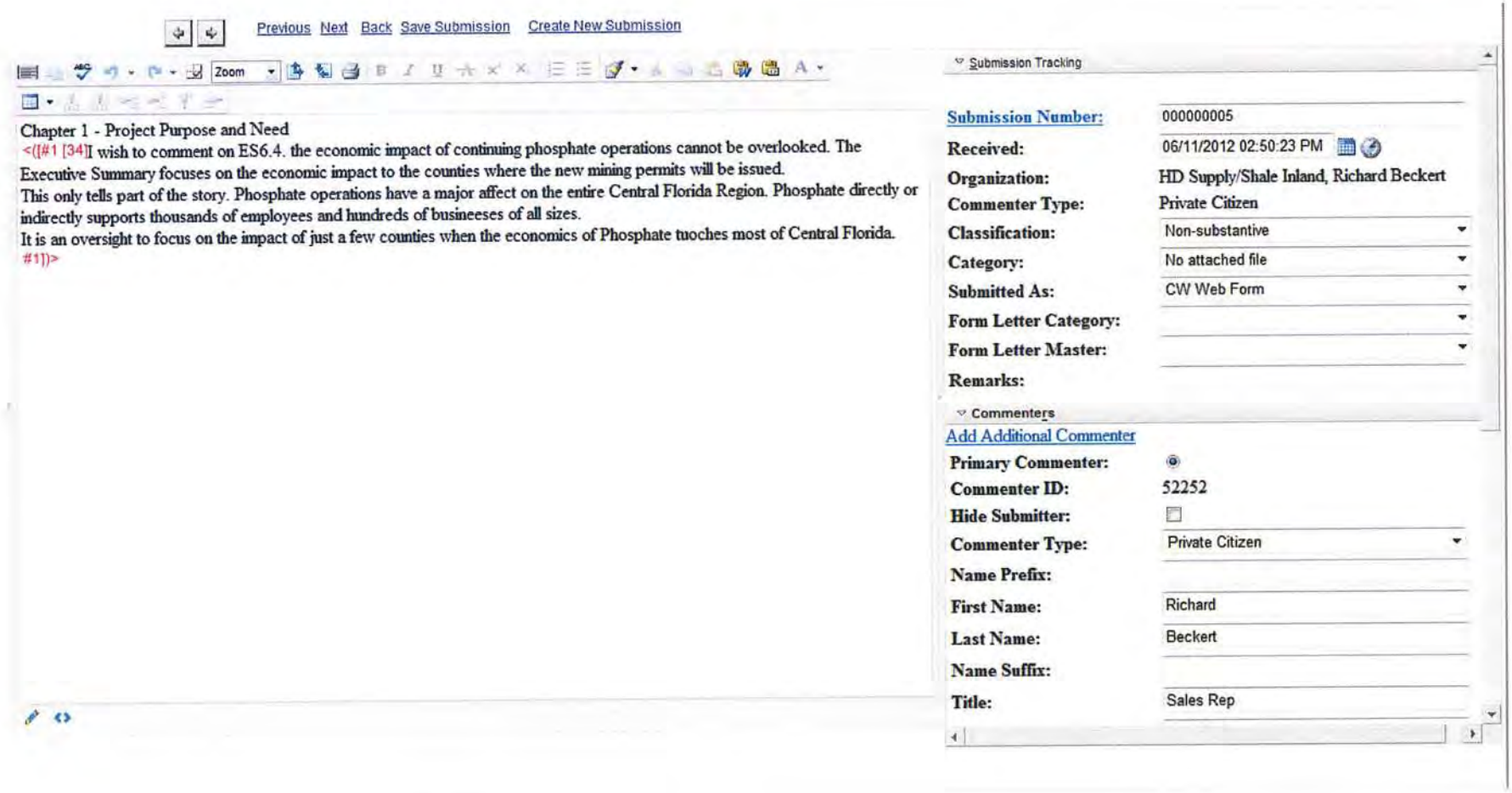
| | |
|---|---|
| NEPA Compliance | Functional Alternatives—Alternative Technology or Practices |
| Groundwater | Cultural Resources |
| Cumulative Impacts | Community Health, Safety, Quality of Life |
| Economics | Ecological Resources |
| Surface Water and Water Resources | Study Area |
| Regulatory Process | Land Cover |
| Alternative Development Process | Permitted Withdrawals/Discharges |
| Mitigation | Surficial Geology and Soils |
| Applicants' Proposed Alternatives | General Comments |
| Onsite Alternatives | |

Within each category, comments that were similar are summarized in bold text with a summary comment and a summary response provided in accordance with CEQ NEPA regulations at Part 1503.4(b). Individual comments contributing to the summary comment follow immediately below the summary comment and response.

Within a category, individual comments and responses follow the summary comments and responses. In some cases, comment categories include only summary comments or only individual comments.

Appendix A does not include submissions of background information received during the Draft AEIS comment period where they were not accompanied by comments on the Draft AEIS. That information is included in the administrative record.

# Public Comment Letters




Submission number 5

| | |
|---|---|
| **Primary Commenter:** | ◉ |
| **Commenter ID:** | 52252 |
| **Hide Submitter:** | ☐ |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Richard |
| **Last Name:** | Beckert |
| **Name Suffix:** | |
| **Title:** | Sales Rep |
| **Organization:** | HD Supply/Shale Inland |
| **Division:** | Not Applicable |
| **Address Line 1:** | 4355 Drane Field Rd |
| **Address Line 2:** | |
| **City:** | Lakeland |
| **State/Province:** | Florida |
| **Postal Code:** | 33811 |
| **Country:** | |
| **Phone:** | 863 559 1271 |
| **Fax:** | |
| **Email:** | richard.beckert@hdsupply.com |
| **Number of Additional Commenters:** | 0 |

Submission number 8


# PROTECT OUR WATERSHEDS

390 CORAL CREEK DRIVE, PLACIDA, FL 33946


Monday, June 10, 2012

John Fellows
USACE/AEIS Project Manager
US Army Corps of Engineers
10117 Princess Palm Ave., Ste 120
Tampa, FL 33610-8302

RE: Draft AEIS for Phosphate Mining in Florida

Dear Mr. Fellows:

Our group has been actively involved in the public input process for the upcoming Areawide Environmental Impact Statement. We want to ensure the best possible protections for our water, our environmental systems, the health of Charlotte Harbor and its fisheries during and after mining.

Due to the massive size of this document, we respectfully request an extension beyond the 45 day comment period. We also intend to comment on the 4 mines that applied at the same time for their Clean Water Act Permit Section 404 ( for a total of 62,000 acres of mining ). Given that the comment period for those mines is 30 days for all 4 mines, we feel the public input process time is unreasonable. Therefore we are requesting a total of 150 days (deadline October 31) to adequately provide well researched comments.

Thank you for your attention.

Sincerely,

Helen Jelks King, O.D.
Vice President, Protect Our Watersheds, Inc.

Submission number 9

**From:** BEVERLY GRIFFITHS [mailto:bevgriffiths@verizon.net]
**Sent:** Thursday, May 31, 2012 4:23 PM
**To:** teamaeis@phosphateaeis.org
**Subject:** Public Comments for DAEIS for CFPMD

Hello,

Please let me know the exact cut off date/time for public comments for the Draft Areawide Environmental Impact Statement for the Central Florida Phosphate Mining District.

I see from the website that it likely begins June 1, 2012. Does the 45 day period include June 1st? If so, according to my calculations the final date is July 15th. Does it end at midnight eastern standard time?

Thanks and I'll wait to hear from you.

Bev Griffiths
Sierra Club Florida
813-741-3054

Submission number 13
(Attachments Available)

-----Original Message-----
From: tiff313@aol.com [mailto:tiff313@aol.com]
Sent: Monday, June 04, 2012 2:30 PM
To: teamaeis@phosphateaeis.org
Subject: Areawide Environmental Impact Statement in the Central Florida Phosphate District

Sirs:

I previously submitted observations (negative) regarding mining in our area. Since that time I have put together more observations. I feel that as an adjacent property owner surrounded by DRI 263's 53,000 acres, my husband and I have a unique observation point. I would like to add right here that our ranch predates mining in our area. We have been here 47 years.

1) Our river, the upper reaches of the Little Manatee River, has been going dry for long periods of time since 2008. We have documented pictures of the river from 2007 and flowing to present day. The cause of the river oing dry is that mining and subsequent reclamation has filled openings in the karst in the bed of the river with sand apparently transported there due to reclamation of mining depths to 60 feet deep. Further, Mosaic was allowed by FDEP to relocate wetlands from above our property to below our property. If wetlands do what specialist say, that is foster water and springs, then obviously relocating wetlands affect the river. Our part of the Little Manatee River now functions as a ditch...no springs.

2) We have lost a number of springs on our property. Springs that one time fed the Little Manatee River and were documented by Mr. M.
Stevenson, Hillsbrough County mine permitting, and Ms. D. Hart, EPC and FDEP. They came out to our property in or about 2009 and documented these springs. Ms. Hart who supervises Mosaic mining was totally unaware of these springs. This unawareness of our springs makes us concerned for other missed springs. These documented springs are now gone. Carefull documentation of wetlands and springs is needed.

3) I have reported both to FDEP, EPC, and the Florida Department of Health the fact that on numerous dates we have been inundated with fugitive dust coming from thousands of acres of open mining land surrounding our property. I have pictures wherein our cows on our property are barely seen due to the dust. Mosaic has yet to be fined the first time regarding the dust issues...documented in many photos going back years. The permitting of mining units as presently done needs revision, see #4 below.

4) Mining units are restricted to a certain number of acres due to damage to the environment and neighboring residents. Mosaic circumvents this Florida Statute by permitting adjacent mining units.
There are three mining units north of our property currently in various stages of strip mining. East of us just a couple of miles is another 3000 to 5000 acres also in various stages of strip mining. To the south of our property, again within a short distance, is another 3000 or so acres in various stages of strip mining....along ith 4000 acres or so "mitigated" with almost no hardwood trees...and scars from mining. So it is no wonder that dust in our area reaches the level that boggles the mine. I have a picture of a dust cloud spanning from Ft. Lonesome intersection of 39 and 674 to Ruskin....the picture portrays the cloud to resemble a long funnel, much like a tornado like image. Too many acres open at the same time contributes to the dust.

See #3 information.

5)Surface albedo or reflectivity: More research needs to be done in this area. We believe the lack of rain in our area is due to albedo/reflectivity...vegetation absorbs more heat than bare soil...I spoke to Mr. Orlando River regarding exactly what the state is doing with this research that indicates surface albedo plays a part in creating areas of low moisture. We live in an area of drought conditions which mining certainly plays a part in perpetuating.

6) There are and will be (presently permitted) massive slurry ponds in the Four Corners area, particularly with the boundary of Hillsborough County ...fifteen to be exact. Each totals about 500 acres with most combined to reach 1700 acres...none less than 1300 acres combined.
One located at the intersection of 39 and 674 will be about 1500 acres and is within five miles of two huge sinkholes. Further, Four Corners mine draws upwards to 65 mgd from wells in this area. Another separate well is sitting right next to one slurry pond (1500 acres) and draws
6.5 mgds a day to supplement the Alafia River to replace water Mosaic draws from Lithia Springs....talk about checkers....move then move...then move again playing with water sources. The Mega MGD's cited by phosphate industries as total mining usage does not reflect sealing well permits and wells used for circulation via mining cuts and slurry pits. No where is there a sum total of ALL water usage for a mega WUP permit...incorporating ALL well permits cited. The public and some regulatory agencies are misled in water usage in mining.

7) Variances circumventing Florida Statutes: The public has input, abet very little, into the mining process. Decisions are made both locally and state wide and even by ACOE. Next, after public input, mining is granted variances circumventing the statutes due to poorly worded rules (ACOE, also) and allowing no public or very little public input. Example: Mosaic asks for a variance from the dissolved oxygen rule citing lack of fill. Those variances are granted routinely.
Mosaic saves a
lot of money not filling in exceptionally deep pits. For a small permit fee, Mosaic saves hundreds of thousands of dollars on trucking and fill. Phosphate mining should maintain reserves regardless, or there are significant impacts to the environment.

Norma and John Killebrew
PO Box 129
Lithia, Fl 33547

Submission number 14

**From:** kristipatel@comcast.net [mailto:kristipatel@comcast.net]
**Sent:** Thursday, May 31, 2012 6:30 PM
**To:** teamaeis@phosphateaeis.org
**Subject:** Further comments

Tetra-Tech did a study which is presently in Region 4 EPA Brad Jackson Project Manager in first draft.

It was a solidly done study with state/federal monies by a solid environmental company using EPA labs....The study was done on Mined Lands in Polk County-TENEROC..

Must needs be accessible for incorporation in AEIS.

Thank you,

Kristi Patel

Submission number 15

**From:** micah patel [mailto:sk84lifem51@gmail.com]
**Sent:** Wednesday, May 23, 2012 5:42 PM
**To:** teamaeis@phosphateaeis.org (under Kristi Patel)
**Subject:** "Gaps" identified in Area Wide Cumulative Impact Evaluation Study

Below find listed areas for extended consideration of Cumulative Impact:

1. Local/Regional Impact. . Impact of water etc to adjacent and nearby neighbors/residents that are self-mitigated by Industry without agency or regulation oversight. ie. Wells provided to neighbors due to private impact of water availablility due to anthroprogenic industrial impact.
This "good neighbor" policy is fiscally responsible however has not been "quantifiable" historically as impact. It is potentially not "enigmatic" or atypical and information should be accumulated and accessed.

2. Waters not included in data ie. swfmd permits for pumping:..ie. De-watering process and re-circulation usage is not quantified and is potentially in the drastic impact category. This is scientifically quantifiable and indicated by the above reference. Removal of the
confining layers has coke bottle effect and draws water from surrounding surface waters and surficial acquifers.Consider This strongly supports that this industry has access to an inordinate piece of the pie..in limited waters that are available for public interest. These waters in pretense are returned
however in theory only; as much gets tied up in clays and settlement areas.

3. Consideration should be given to properties acquired for mining that have a history of chemical impact..ie. agricultural/orange groves etc. There is not sufficient data re. the "fate of chemicals" and potential chemical bonding during process that could impact public health drinking water.
The "bonded" chemicals do not detect in present drinking water testing criteria. (Greg Drexler/USGS). Excavation of these regions provide dust/air particles that are not presently detectable in regulatory process..

4. The allocated 45 days is not sufficient for thorough public/professional response due to the longevity of report. Please extend.

Submission number 17

**From:** kristipatel@comcast.net
**To:** kristipatel@comcast.net
**Sent:** Wednesday, May 30, 2012 10:15:06 AM

Additional Comments:

I. It would be pertinent to maintain "open" time-frame of area-wide study without pressure from industry; to assure the public interest. It appears that we are in a crucial and perhaps pinnacle time in our state.

Those in decision making capacity within government regulation and other public service will give account for regulatory decisions that are made on insufficient or potentially biased data due to history of
Industry's documented "overt influence over legislative process" as historically evident.

2. I am requesting serious and professional scrutiny be given to "gaps" of existing information/ with allocation of funds to establish the necessary research and data collection to fill those gaps. Due to the history
of potentially "biased" information...I am requesting that USGS be the only government agency to oversee the necessary research to provide public health assurance and public interest.

3. I am requesting any and all information/data acquired or utilized in the Area Wide Cumulative Research Study to date that is based out of "FIPR-Florida Institute of Phosphate Research" to be perceived as "Self-Reporting"
with potential bias due to history of Institutes overt influence/interdependence of Phosphate Industry.

4. Consideration be given to changing present permitting standards of dam/water retention due to previous study by Post/Buckley Peace River Impact Study...the justification for water impact was not

sufficient due to
study only using existing information. They heavily focused on "theory" of Trans/Atlantic Occilating Factor"....therefore by their own documentation we are potentially "fixing to have a flood" so since this has come
into document phase...perhaps we "must needs" or it would "behoove" us to address this very important issue.

Reference:

1. .Severance Tax l978 Statute...monies set up to be utilized specifically by industry for impact.

2. ( FIPR) Florida Institute for Phosphate Research...which provided assurances to Industry of establishing a monopoly on all "existing information/ data" which would pave the way for all future regulation on same Industry.

Documentation and testimony could be provided by academic/political community...that: a) Industry Lobby very strong in 78 and statute was precipitated/instrumented by lobbyist/Industry. Quote by politician..." I would like to
tell you that we had a strong public health platform, however, Industry lobby very strong...they presented statute and we shook our heads and nodded." b) That Public Health Professionals were Behavior Modded into NOT utilizing FIPR
monies directly following establishment of funding source. I personally interviewed several Public Health Academic professionals at USF Tampa...they directly informed me and stated to me ...that they attempted to put
thru Seed and/or Formal Proposals....and that the then Public Health Professional at FIPR, Gordon Nifong, made them " go through so many hoops", that they determined it was "industry money" and there were more easily
accessible funding sources for them. Dr. Nifong ...later quoted to me in the early 90's...that obviously there are not public health issues because the public health community was as able as anyone to do research. I found this
to be inconsistent with testimony. I was requested by Dr Gordon Nifong to go to USF and get the two academics that did participate to "stand behind" their research. This was in reference to DR. Gary Lymans study on
Increased Leukemia and Lung Cancer in the Phosphate Region...and a DR. Chokas(Statistician/Mathematician)....These Scientists were scrutinized when the Institute did not like their findings....they were upstaged with
radiation and other experts out of Seatle??? and made to look like academic buffoons...Dr. Brian Berkey personally documented discount of Lymans work autocratically???without peer review...It was the ultimate statement of existing
bias.

3. Out of State Reference:...EPA Region 5 Administrator Mary Gade 08-Fired for Establishing an Emergency Super-Fund for Dioxins/DOW CHEMICAL and fired after having a glowing evaluation by superior three months prior.
Formal Congressional Investigation by Boxer/Whitehouse requesting termination of Cabinet Environmental Administrator Stephen Johnson. (Historical documentation of Industry/Corporate OVERT influence over legislative process

4. FLORIDA: JD Alexander's Appropriations Steering Committee.precipitates "90 Day Summary Hearing" in August 08 session after...litigation by Charlotte County Florida petition regarding Impact of

Phosphate MIning.

This documented action "blatantly" and legally shows the "OVERT influence of Industry/Corporate Influence over legislative process which is against the law and meets criteria of corruption and abuse of office.(GAP-Government

Accountability Project) Jennifer Fitzwater DEP-Legal stated to me that she and her entire office were "unaware" of this action until it passed in Statutory Law..this legislature acted autocratically without the counsel of Public

Servant Scientific Community sold the public interest/protection for future personal/industrial gain. It was further said that with "PIney Point" initiative...there was some "giving and taking" to mitigate. The Government does not

need to "negotiate" without any strength with private business that does not constitute PUBLIC INTEREST. Industry exhibits consistent profit..private.

5. Professional Phosphate industry in Idaho...Simplot informed this writer that "Florida Phosphate Research was perceived by them as biased".

6. Potential Formal Inquiry into "Mis-appropriation....of in excess of $150 million dollars of Tax Payers Monies due to abuse of Industry Influence. The Formal Mission Statement of Florida Institute of Phosphate Research was bi-fold"

1. To provide public health assurance as it relates to phosphate issues.....and secondarily 2. To increase Industry efficiency ( Focused in statute on Economic/Natural Resource Impact)

A group of Graduate Students could with ease determine whether any of the apparent "Public Health" historically done out of FIPR over the last 30 years meets professional "PUBLIC HEALTH" category.

Public Health has been grossly not represented which was the initial justification of allocating the $150+ million dollars of TAX Payers monies. "Severance"-coming out of kingdom resources" Tax"-Monies into general revenues"

I personally had both Steve Sussix and Deborah Oates...both historically sitting in decision making capacity on board of FIPR as Industry Representatives, which historically functioned autocratically by design with no accountability...quote to

me...that "THESE ARE INDUSTRY MONIES AND SHOULD BE USED FOR INDUSTRY". The composition of the Board ie: Five-Member ...Two industry representatives...one environmental/conservation....one regulator ...and one

Academic(which historically was engineering/ never public health)...was potentially intrinsically set up for potential bias.

Ref:....BCI-Fate of the Re-Agent Study.....found residuel petroleum in 4 out of 42? monitoring wells as well as in sand tailings. This agency is intrinsically set up to "not" find impact. Request and watch the second study...on video..

BCI presented a good scoped study....the board....Steve Sussix states...."cannot have ANY risk assessment as it will unduly alarm the public"!!!....This was a second study that already documented existence of public health problem.

The risk assessment was slashed from study....so "token" research again done without objective benefit...Video is available thru FIPR. Dialogue is alarming and consistent with this writers testimony.

Submission number 18

**From:** Lilly, Hunter [mailto:hunter.lilly@lwcharterschools.com]
**Sent:** Wednesday, May 23, 2012 3:01 PM
**To:** teamaeis@phosphateaeis.org
**Subject:** input

Dear Army Corps of Engineers,

My only input for this potentially massive phosphate mining project is:

Please look at the TOTAL costs of this project- and look deeper than the all too common responses of Mosaic o water recycling, habitat/eco restoration, air quality impacts, etc. Large acreages of cogon grass, monocultured slash pines, huge gypson stacks, deep well injections, huge amounts of natural gas used to make their fertilizers (which is highly destructive to obtain via fracking, etc.- and major greenhouse gas).

What do they mean by recycling most of their water? Even if they did recycle a certain percentage, the huge amounts of water they will be using amounts to large amounts not being recycled. Also, recycled water is rarely the quality of an original water source.

I have been involved in commercial organic farming for over forty years around the world-- and for Mosaic to state that they are needed to feed the world, and we must have their products to survive and eat- is a pure myth. I do not know of any commercial organic/sustainable farmer that needs to use their products. There are many studies demonstrating that organic/sustainable ag is going to be the ONLY way to feed the world in the future- not the present dominant corporate chemical model.

Destruction of more wetlands and natural areas is totally unnecessary in this present day of the urgent need of such systems for human survival.

True scientists have the courage to ask the right questions- to go deeper, even though this may be unpopular with the powers that be.

Thank you very much,

Hunter Lilly, Ph.D.

Submission number 19

SIERRA CLUB
FOUNDED 1892

June 7, 2012



VIA E-MAIL: john.p.fellows@usace.army.mil

John Fellows
USACE AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

RE: Draft Areawide Environmental Impact Statement (AEIS)
Phosphate Mining in the Central Florida Phosphate District

The Sierra Club Florida will be providing comments on the draft AEIS, however, given the volume and level of detail in the document we are very concerned that 45 days is woefully insufficient time to adequately review and prepare our response to it. Therefore, we respectfully request that the Corps grant a 90-day extension beyond the current July 15 deadline to receive comments.

While our review is continuing, we have already identified several locations where the most basic data about the proposed mines is inconsistent. For example, compare 1-12, 1-17 and 2-8 regarding the acreage of wetlands and stream lengths affected and the years of operation of the mines proposed. It would be extremely helpful to the comment process to have a clarification of these inconsistencies.

In addition, we respectfully request confirmation of the Corps agreement to our extension request in writing.

Regards,

Marian Ryan

Marian Ryan, Conservation Chair
Sierra Club-Florida
863-293-6961
marianryan@gmail.com

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000024 |
| **Received:** | 06/19/2012 06:44:46 PM |
| **Organization:** | Mosaic Fertilizer LLC , Monica Schulz |
| **Commenter Type:** | Company |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

Chapter 4 - Environmental Consequences
<([#1 [6]I truly believe the environmental impact will be very minimal if any at all. As far as Mosaic is concerned, they have always reclaimed the land to a better state than the original by putting the land to a good use after it is mined.

Where there used to be just grass and old trees, Mosaic will relocate the trees, the animals and anything than can be affectred, then they mine the land, reclycle water and either plant something on that land or make it a public park for citizens to enjoy, or lakes for Floridians to fish and by the way the lakes have fish ready to go in them.
I just cant imagine Florida without the positive impact mining has not only from the economic perspective but also the environmental aspect as well because going the extra mile to properly reclaim the land is awesome! I wish every Floridian would be more educated as to what is involving in mining and all the extra steps taken to protect people, animals and the environment in general.#1])>

Chapter 6 - Compliance with Environmental Requirements<([#5 [48]
I have been involved with phosphates for 31 years. I know the process and the people. In my job we ensure that employees abide by very strict compliance standards even beyond the International Standards Organization 14000. Companies train employees on environmental and safety compliance before they can start to work, they also test employees on a regular basis, provide regular refresher training, conduct extensive audits and process reviews to obtain compliance and make sure the environment is not affected in any negative manner.
If for some reason any employee or contractor decides to violate an environmental rule, he or she will be held accountable for it. There are no exceptions to the compliance rules and regulations. This ensures that we comply at all time as well as the sustainability of our Florida economy and its people.

We all need to eat, population grows each second on a worldwide basis. The solution is to use fertilizers that are good quality and produce good yield and do it in an environmentally friendly manner: this is what companies like Mosaic do, we feed the world without causing any damage.#5])> <([#6 [34]Phosphate Mining creates awesome job opportunities for people (almost 7,000 direct and indirect jobs in Florida and Louisiana) and make sure they uphold the highest ethical standards.

| | |
|---|---|
| **Primary Commenter:** | ◉ |
| **Commenter ID:** | 52269 |
| **Hide Submitter:** | ☐ |
| **Commenter Type:** | Company |
| **Name Prefix:** | |
| **First Name:** | Monica |
| **Last Name:** | Schulz |
| **Name Suffix:** | |
| **Title:** | Human Resources Manager |
| **Organization:** | Mosaic Fertilizer LLC |
| **Division:** | Not Applicable |
| **Address Line 1:** | 1415 Pier Court |
| **Address Line 2:** | |
| **City:** | Lakeland |
| **State/Province:** | Florida |
| **Postal Code:** | 33813 |
| **Country:** | |
| **Phone:** | (813) 418 2448 |
| **Fax:** | |
| **Email:** | monicaschulz@msn.com |
| **Number of Additional Commenters:** | 0 |

Delete Commenter

Submission number 24

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000025 |
| **Received:** | 06/21/2012 07:00:02 PM |
| **Organization:** | Chris Sutherland |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

Zoom

Chapter 1 - Project Purpose and Need

<([#1 [6] [34]Our nation needs to be able to responsibly harvest and utilize our natural resources to provide for growing food, and providing income, energy, and taxes. We must find a way to responsibly access the value of the phosphate deposits in our land. Please do not over regulate this industry to the point that it no longer can provide for our food growth needs, and our economic needs.

If we continue to burden our industries with impossible regulations, we will drive them out of existence. This will also run our jobs and the associated revenue out of our country as well and make us dependent on other nations for our food supply.

#1])>

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52270 |
| **Hide Submitter:** | ☑ |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Chris |
| **Last Name:** | Sutherland |
| **Name Suffix:** | |
| **Title:** | |
| **Organization:** | |
| **Division:** | Not Applicable |
| **Address Line 1:** | 8728 W. Knights Griffin Rd |
| **Address Line 2:** | |
| **City:** | Plant City |
| **State/Province:** | Florida |
| **Postal Code:** | 33565 |
| **Country:** | |
| **Phone:** | |
| **Fax:** | |
| **Email:** | csutherland6@gmail.com |
| **Number of Additional Commenters:** | 0 |

Delete Commenter

Submission number 25

Submission number 26

**From:** Hanson, Joel [HDS] [mailto:Joel.Hanson@shaleinland.com]
**Sent:** Thursday, June 21, 2012 11:03 AM
**To:** teamaeis@phosphateaeis.org
**Subject:** Draft AEIS Comments

Hello Corp of Engineers,

I want to let you know that I fully support the phosphate industry here in Central Florida for a variety of reasons. My employer depends heavily on the business we do with the industry, therefore my personal job security relies on this business as well. I'm sure you already know this is typical of a large number of people in Polk County and the surrounding areas where phosphate mining is done. The fiscal welfare of many co-workers, friends, and business counterparts is at risk if the industry is not treated fairly. In addition, the fertilizer that is produced is vital to our food supply – we can not afford to shut down or put undue pressure on this industry that produces such an important product and keeps so many of us employed.

Thank you for hearing my comments.

Note my new e-mail address is joel.hanson@shaleinland.com

Joel Hanson
Inside Sales
Shale-Inland PVF (formerly HD Supply Industrial PVF)
Lakeland FL - Branch 4506
P: 863.646.1493 ext. 75231
F: 863.644.1295

SHALE INLAND PVF

Submission number 28

**From:** Wilcox, Al - Pierce (Third Party) [mailto:Al.Wilcox@mosaicco.com]
**Sent:** Wednesday, June 20, 2012 1:20 PM
**To:** teamaeis@phosphateaeis.org
**Subject:** Public Statement on Phosphate AEIS

I'm sorry that I could not locate the reply form on the website.

I am a private citizen that has been following the phosphate mining permitting process for many years. The Phosphate Industry has demonstrated that they are highly ethical, excellent stewards of the Environment and striving to improve the way they do business. The industry is crucial to the financial well being of Central Florida and to the sustainability of agriculture in North America. I urge the Committee to approve these permits and allow Mosaic to proceed with providing Job and Financial security for the Central Florida region.

Al Wilcox
3602 Cinnamon Trace Drive
Valrico, Fl 33596

863-559-0680
Captainal8@aol.com

Submission Postcards
(numbers 29 through 189)

29

## Sandhill Crane Pair

*Postcard images courtesy of Florida naturalist and water quality expert John Kiefer, PE, PhD.*

*Photographed at CF Industries' Hardee County (Florida) North Pasture reclamation site. Post-mining, Spring 2011.*

CFIndustries

Phosphate Operations
Helping Farmers Feed a Hungry World

6209 N. County Road 663 ▪ Bowling Green, FL 33834
▪ 863-375-4321 ▪ www.cfindustries.com

Dear ACOE,

I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that **no future limitations** on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides.

I urge the ACOE to approve the projects as proposed by the applicants.

Name: JEFF WALKER
Address: 1115 SOUTH DUNBAR
TAMPA, FL 33629

I AM A CF INDUSTRIES EMPLOYEE, CONTRACTOR or FAMILY MEMBER

Submission number 191

**From:** Clunk, Dave [mailto:Dave.Clunk@cat.com]
**Sent:** Friday, June 29, 2012 11:09 AM
**To:** 'teamaeis@phosphateaeis.org'
**Subject:** Mosaic Company.

Dear Sirs,
Mosaic is not only an Industry Leader in the Mining industry but leaders and deeply involved in many Florida communities.
In addition, Mosaic employees numerous people in central Florida which is a big boost to our economy. Mosaic is also dedicated in preserving Florida's habitat. It would behoove everyone to expedite the impact study so business can start moving forward again.

Regards,

David Clunk
Regional Sales Manager - Eastern Region
Caterpillar Global Mining
Phone: 863.285.7070
Mobile: 863.712.7562
Dave.Clunk@Cat.com

Wherever there's Mining, we're there.
Mining.cat.com

Submission number 192

# MANASOTA — 88

## A Project for Environmental Quality 1968 - 2088

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

June 22, 2012

RECEIVED
JUN 25 2012
Tampa Regulatory Office

**Re: Draft Areawide Environmental Impact Statement *(DAEIS)* on Phosphate Mining in the Central Florida Phosphate District**



Dear Mr. Fellows:

No mineral better illustrates the future danger the United States faces from neglecting to develop a comprehensive mineral resource management policy than phosphate. The depletion of this essential non-renewable resource will result in serious economic and national security problems for the United States.

ManaSota-88 is mainly concerned with the limited scope of the DAEIS study. Phosphate mining, phosphogypsum waste disposal, and the operation of a fertilizer manufacturing plant must be linked for cumulative impact analysis. Unfortunately the DAEIS is not sufficient in scope to adequately address all the environmental issues of the Proposed Action and permit reviews. Because of the limited scope of the DAEIS , its usefulness in evaluating the social. economic and environmental impacts the phosphate industry is having in Florida is also limited.

The DAEIS does not begin to address the effects of highly radioactive and toxic clay settling areas, the health effects associated with the transportation of phosphate ore and gypsum, the public health and environmental impacts associated with phosphogypsum waste disposal, reagents used in mining and processing ores, and other phosphate wastes.

If some action is not taken to slow down the present extraction rate of phosphate yearly, Florida will not be a significant factor in the world supply structure within 25 to 35 years. Our country will increasingly have to rely on other countries for phosphate.

Florida's phosphate industry has enjoyed a phenomenal financial bonanza guaranteed to encourage rapid extraction of the resources aided by inadequate environmental laws and regulations.

**Information**
P.O. Box 1728
Nokomis, FL 34274
(941) 966-6256
FAX (941) 966-0659
www.manasota88.org

To permit the continued, rapid depletion of this essential non-renewable mineral will not only result in serious economic and national security problems for the United States, it will leave Florida with perhaps centuries of costly water, air and land clean-up that will far exceed whatever short-term profits and other indirect economic benefits of the industry there might be.

Projections for phosphate mining longevity in Florida are overly optimistic.

The phosphate resources cited in the DAEIS as a likely supply are, of course, much greater than reserves and cannot possibly be mined under existing conditions. It is doubtful these resources will ever become reserves since the cost of producing phosphate in Florida - especially energy related costs - will go up as fast or faster than the sale price of phosphate so that billions of tons of resources may never advance to the reserve classification.

Potential improvements in conservation, substitution and recycling are going to require a more definitive commodity-specific analysis. Market mechanisms will not be adequate to insure conservation of Florida's phosphate resources. Working competitive markets in phosphate minerals don't really exist anymore. This fact coupled with our still cheap, by world standards, energy costs, free groundwater, subsidized transportation etc. aids in promoting the rapid extraction of this vital mineral.

Because the long-term detrimental effects of rapid mining of a non-renewable resource do not appear to have been included as part of the DAEIS, the estimated value of phosphate minerals in our short-term economy is probably overstated.

As an example, the DAEIS implies economic productivity will be enhanced by the continued operation of the phosphate industry and as a result of the trade-offs of destruction of our land and water resources - we get in exchange low-cost fertilizer.

The DAEIS cites the important advantages phosphate mining brings Florida in taxes and employment. However, projected mining income from just Manatee and DeSoto counties combined fails to match the natural resource oriented income of tourism and agriculture.

The costs of pollution and drawdown of Florida's aquifers, loss of wetlands and other natural systems, restricted uses of land after mining, contamination of surface waters, and increased mining-related health costs have never been computed. If the latter were accomplished, the negative economic impact of phosphate mining would become even more apparent.

A proper economic assessment can only be made when the costs of the following are included - the irretrievable commitment of fossil fuels to generate the electricity needs of the industry, the irretrievable commitment of chemicals used in processing, land-

use changes caused by the mining that will narrow future land-use plans, timber destruction, loss of habitat types and natural wildlife and community diversity, hazards associated with redistribution of radioactive materials, the drawdown and contamination of groundwater supplies, destruction of wetlands, and finally the social and welfare costs as a result of exposure to products and waste products of these operations.

What this means is, we are permitting the phosphate industry to degrade our environment and without any thought of conservation, are permitting ourselves to be put in the same dependency situation that we are with oil.

It is obvious that we are in an extremely precarious position because of our dependence upon foreign suppliers of non-fuel minerals, unfriendly as well as politically unstable ones. This points up the need even more dramatically to develop a policy to conserve phosphate reserves. The DAEIS is deficient in any discussion concerning phosphate mineral conservation.

It seems far sounder policy to retain the domestic phosphate mineral reserves we have, rather than continue to let them be extracted at the present giveaway prices.

To say that the decline of phosphate non-renewable resources is no real cause for concern does a remarkable disservice to our national interests. Our national security goals cannot be met if we let this situation of phosphate mineral dependence grow.

While we do not totally discount government research and development efforts, we certainly do not view them as a miracle solution to our phosphate mineral problems.

We feel the most important phosphate mineral policy objective is to ensure conservation of our domestic supply and that attainment of this objective is of paramount importance as yielding the greatest benefits to the nation.

While industry generally protests each proposal that arises to protect human health and the environment - citing certain economic doom, the fact is environmental rules and regulations have resulted in innovative techniques which are helpful to industry being developed & positive economic gains to the national economy in the form of jobs.

ManaSota-88 requests the final AEIS report recommend the development of a non-renewable resource policy for the mining of phosphate.

We recommend this policy include :

(1) the sequence of mining;
(2) the amounts of phosphate permitted for overseas shipment;
(3) development of methods to recover phosphate from sewage and solid wastes;

(4) domestic application of fertilizers (the latter two proposals will also aid in cleaning up the nation's waters)
(5) an inventory of existing phosphate reserves and resources - the validity of the present figures regarding resources and reserves is in doubt.
(6) future land use restrictions when mining companies, as at present, refuse to return lands to the radiation levels that existed before mining, this is both economically and technologically feasible.
(7) the effects of unlimited mining of a non-renewable resource

As far as the impact of such a policy on our so-called free enterprise system, subsidized by government as it is, the survival of our nation is threatened by the present rate of phosphate mining. Phosphate is a mineral which is basic and absolutely essential to our national well-being. It is vital to agriculture and has no substitute.

The people pay the costs of mining in Florida in increased water treatment costs and through costs of development of additional, inferior, and expensive technologies to treat water sources.

Additional recommendations for inclusion in the AEIS:

1. Gypsum stacks and gypsum ponds, radioactive dumps if you will. contain thousands of curies of radium-226 and have been shown to exceed EPA standards for radioactive materials: cadmium. chromium and pH. An inventory of existing gypsum stacks and the projected amount of phosphogypsum disposed of should be included in the AEIS.

2. All air emissions associated with phosphate mining, processing and waste disposal that could reasonably be anticipated and all proposed emission points need to be included in the AEIS.

3. All existing Title V Air Permits needs to be referenced. It should also be mentioned that cumulative effects of all mining operations presently permitted in our region plus the proposed mining do not appear to have been considered. Additionally, the impact of the daily generation of electricity, which will produce further deterioration of air quality, does not appear to have been considered.

   To fully grasp the environmental impact, reference should be made to the tremendous amount of energy required by the phosphate industry. No precise figures are available for electrical use. The Increase in mining activities has undoubtedly led to the increase in request for new power plants.

4. Toxic Release Inventory

5. The AEIS should identify the steps that should be taken by the industry to reduce

radon daughter and gamma radiation to pre-mining background levels; therefore not leading to significant land use restrictions and adverse health impacts.

6. Radiation standards for post reclamation mined lands need to be strengthened. Post reclamation lands must not be permitted to exceed pre-mining, unenhanced natural background soil radium and gamma levels.

   Radiation risks are not evenly distributed. Proximity to the mine site, wind direction, and other factors will subject some to much higher risks than others.

   Additional discussion is needed to address those instances when post reclamation lands exceed pre-mining radioactive concentrations.

7. Post-mining land reclamation requirements need to be strengthened.

   Reclamation is not the same as restoration and this distinction clearly needs to be made. It is important to specify for all tributary's that restoration will be performed, not reclamation or mitigation. Restoration requirements for all lands within the 100 year flood plain and all tributaries should be included.

   No mining should occur within 1,000 feet of any river, stream or creek. Conservation easements should be required for all rivers, streams, creeks and wetlands. Hardwood wetlands should not be mined as the technology does not exist to restore hardwood wetlands.

   Mining of minor tributaries and bayheads adjacent to major streams will also further contribute to water degradation. Suffice it to say, it poses no positive benefit to the area, region or nation. Carefully reviewed, it can only be considered an economic negative.

Sincerely,

Glenn Compton

Chairman, ManaSota-88

Submission number 193

# City of Punta Gorda, Florida

RECEIVED
JUN 25 2012
Tampa Regulatory Office

326 West Marion Avenue
Punta Gorda, Florida
941-575-3369 Telephone
941-575-3365 Fax
www.pgorda.us

June 20, 2012

VIA U.S. MAIL & E-MAIL: John.p.fellows@usace.army.mil

USACE AEIS Project Manager
US Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302
Attn: John Fellows

Re: Draft Areawide Environmental Impact Statement (AEIS)
Phosphate Mining in the Central Florida Phosphate District

Dear John,

The City of Punta Gorda will be providing comments on the Draft Areawide Environmental Impact Statement Phosphate Mining in the Central Florida Phosphate District. Given the size and detail of the AEIS, the City of Punta Gorda's City Council respectfully requests a 90 day extension beyond the July 15th comment deadline in order to afford sufficient time for a comprehensive review of the document as well as the opportunity to prepare articulate and well reasoned comments.

In addition, we respectfully request confirmation of the Corps agreement to this request in writing.

Sincerely,

William Albers, Mayor
City of Punta Gorda City Council

cc: via email only:
Commissioner Harvey Goldberg
Commissioner Charles Wallace
Commissioner Rachel Keesling
Commissioner Carolyn Freeland
David Levin, City Attorney
Howard Kunik, City Manager

Punta Gorda
It's Happening On The Harbor

Submission number 194

-----Original Message-----
From: Elizabeth Wong [mailto:ewong@cityofnorthport.com]
Sent: Friday, June 29, 2012 6:01 PM
To: 'Lisa Beever'; Fellows, John P SAJ
Cc: Branford N. Adumuah; Cindi Mick; Jerry Manning
Subject: E. Wong comments on USACOE Draft Aerial Wide Environmental Impact Statement AEIS

Hello Lisa and John, thank you for the workshop and all the hard work that went into the AEIS.

'ollowing are my comments/questions as raised at the workshop on 6/25/12

The City of North Port is concerned with the cumulative impacts of the future Pine Level/Keys mine within the Big Slough watershed on the City's major raw water supply, as the City has an approved SWFWMD Water Use Permit which allows water withdrawal from the Big Slough (aka Myakkahatchee Creek ) when the measured flow at the USGS gage 02299484 at Water Control Structure No. 101 is over 10 cfs.

* The Draft AEIS Executive Summary and Appendix D addressed the impact of the Pine Level/Keys mines by evaluating data on an annual basis and not on a seasonal basis. Page 27 of the Executive Summary indicates that "With the mine's effect accounted for, the annual average discharge in 2060 was estimated at 202 cfs, or a reduction of approximately 6 percent."
* Please indicate whether the 6 percent impact on the Big Slough annual average flow is significant or not and the statistical basis of the analysis.
* Please provide the analysis of the effect of the Pine Level/Keys mines on the Big Slough flows during the dry season as this is the time of the year when the mines will have the most impact. For example, please indicate the percent change in the number of days the flow in the USGS gage 02299484 is anticipated to be less than 10 cfs when the mines are in operation. It is recommended that the seasonal impact of the mines on downstream flow be included in the Executive Summary, in addition to a discussion of the significance of the impact.
* In Appendix E Table 9 on page 45, please indicate how the Dry Runoff Coefficient of 0.25 (without proposed mine) and 0.24 (with Pine Level/Keys mines) is derived for year 2060. These coefficients do not appear very different.

Elizabeth Wong P.E.

Stormwater Manager

City of North Port

Department of Public Works

1100 N. Chamberlain Blvd

North Port, FL 34286

Office 941.240.8321

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ewong@cityofnorthport.com <blocked::mailto:ewong@cityofnorthport.com>

www.cityofnorthport.com

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Classification: UNCLASSIFIED
Caveats: NONE

Submission number 195

-----Original Message-----
From: marcia@accentsaway.com [mailto:marcia@accentsaway.com]
Sent: Monday, June 25, 2012 5:48 PM
To: Fellows, John P SAJ
Subject: phosphate mining

We need a reasonable deadline extension for the study just done on phosphate mining. Also, isn't it a conflict of interest to have the mining companies paying for the study?
Sincerely,
marcia

Marcia Hoodwin, M.A.
Certified Speech-Language Pathologist
Telephone: 941-921-9533
marcia@accentsaway.com
http://www.accentsaway.com <http://www.accentsaway.com/>

Classification: UNCLASSIFIED
Caveats: NONE

Submission number 196

US Army Corps of Engineers
Jacksonville District

# AREAWIDE ENVIRONMENTAL IMPACT STATEMENT
ON PHOSPHATE MINING IN THE CENTRAL FLORIDA PHOSPHATE DISTRICT

BUILDING STRONG®

**Public Comment Form**

**Public Meetings:**
June 19, 2012 – Lakeland
June 21, 2012 – Punta Gorda

The USACE is engaging the public during this formal opportunity for public participation under NEPA, during which input is being solicited from the public regarding the Draft AEIS. The formal comment period runs for 45 days, from the June 1, 2012, publication of the Notice of Availability in the Federal Register until July 16, 2012. Comments may be provided using the electronic form on the website, by e-mail to teamaeis@phosphateaeis.org, or via other standard mail or commercial delivery services to the following address:

Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

This paper comment form is provided to facilitate your submittal of comments regarding the Draft AEIS should you prefer not to use one of the electronic options. Please provide the identification information below, and for your comments, it will help us most if you can be specific with your comments by referencing a specific chapter and subsection (or topic), and if applicable reference a page number and/or line number.

Please note that any information (including personal identifying information) received through this form may be made available to the public online or in a paper docket, unless the comment includes information whose disclosure is restricted by statute. Do not submit any information that you do not want released to the public. Electronic files should avoid the use of special characters or any form of encryption, and should be free of any defects or viruses.

**Your Information:**

First Name: Lisa Last Name: Nason
Title or Position:
Address* 7219 Greenville Ct
City: Orlando State: FL
Postal Code: ~~FL~~ 32819
Email: lisanason@yahoo.com
Phone: 407 902-7342 Fax: ( ) -

Opt Out: ☑ By checking this box, you are requesting that your personal information NOT be included in any public release of comments.

**Commenter Type:**

- ☑ Private Citizen
- ☐ Academia
- ☐ Community Organization
- ☐ Environmental Organization
- ☐ Law Firm (representing itself)
- ☐ Professional Association
- ☐ Union
- ☐ Non-profit Organization
- ☐ Company
- ☐ Tribal Government
- ☐ Federal Agency
- ☐ Stage Agency
- ☐ Regional Agency
- ☐ County Government
- ☐ Municipal Government
- ☐ Taxing District/Water Control or Communities
- ☐ Federal, State, County, or City Elected Official
- ☐ Media
- ☐ Other: _____
- ☐ Undetermined Organization
- ☐ Anonymous

**Select the chapter or appendix you wish to comment on:**

- ☐ General
- ☐ Chapter 1 – Project Purpose and Need
- ☐ Chapter 2 - Alternatives
- ☐ Chapter 3 – Affected Environment
- ☐ Chapter 4 – Environmental Consequences
- ☐ Chapter 5 - Mitigation
- ☐ Chapter 6 – Compliance with Environmental Requirements
- ☐ Chapter 7 - References
- ☐ Chapter 8 – List of Preparers
- ☐ Chapter 9 – Distribution List
- ☐ Chapter 10 - Glossary
- ☐ Chapter 11 – Index
- ☐ Appendix A – Site Aerials
- ☐ Appendix B – Water Quality Evaluations
- ☐ Appendix C – Ecological Characterizations
- ☐ Appendix D – Groundwater Modeling
- ☐ Appendix E – Surface Water Analysis
- ☑ Appendix F – Economic Analysis

**Please enter specific comment(s) aligned with the chapter or appendix indicated above.**

| **Draft AEIS Chapter, Section, or Appendix (page/line number)** | **Write your comments in this column.** |
|---|---|
| Appendix F | I'm distressed by an apparent lack of awareness, interest or focus on the enormously important economic impact benefits associated with mining (jobs, taxes, etc.) as well as the tremendous financial investments in environmental stewardship already expended (& planned) by the mining companies. (et stringent regs, strong enforcement & stringent compliance be the motto of the day & keep our phosphate miners WORKING & Contributing |

*If additional space is needed, please securely attach additional sheets to this form.*

**Mailing Address:**
Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

**Email:** TeamAEIS@PhosphateAEIS.org **Web Site:** www.PhosphateAEIS.org **Telephone:** (813) 769-7067

Mr. Allain Hale - Comments
(With some comments by Mr. Keller)

PUBLIC COMMENTS

MR. HALE: My name is Allain Hale. I'm with the environmental ecofederation of Southwest Florida called EcoSwift, and I'm from North Port. And we're concerned with the Keys Mine, which is in the big slough, drying up the water supply to the Myakkahatchee Creek which originates in the big slough. And a deal has been worked out with Mosaic that we get -- when the mine is finished, we get the hole and that becomes the reservoir for the City of North Port's drinking supply. Right now, the Myakkahatchee Creek comes down from the big slough, originates in a dammed-in area. That is the major water supply for North Port as it sits right now.

I want to know if North Port's commissioners have bought into this idea of buying a hole for a new reservoir. Has this

idea ever been successfully floated before and is it in use? I haven't heard of any. So I wonder if you bought into a promise that can't be kept. Because everybody knows that the -- the -- the leftover mined-out holes, the water is undrinkable. It's without oxygen. So that's my question.

MR. KELLER: I would suggest that the Corps of Engineers go back to NEPA and try to understand the language which directs them to perform a past, present and future impact study. These are not affects. They've changed the language, but these are impacts. Cumulative impacts. They've ignored that. Health issues. They've ignored that. On offsite, they haven't really looked at the estuary to harbor. I think this is a regional impact study. It doesn't even come close to the threshold of an areawide impact study.

The 350,000 acres that were mined prior to 1975 for the most part have been ignored. These are the biggest impacts up there because it's been a moonscape. None of it has been revegetated or mitigated to any real extent. So they take that off the list

and then they don't add it again, it's a double whammy to the cumulative impacts. And so like I said, this is why. You can strap this to a rocket. It wouldn't fly. As a taxpayer, I'm really ticked off about it. I know they're not going to read it. I'm going to get sued anyway by the environmental group. That will get them reading it.

MR. HALE: There's nothing in statutory language, no agreement's been signed or anything that this will happen. It's just a theory of what could be done. But there's no agreement that's been signed that I know of. And I was wondering about that, if this should be in the AEIS draft report that the -- this would be how -- how the completed Keys Mine will be utilized after -- after it's through with and that will become the reservoir for North Port.

Mr. Keller - Comments
(With some comments by Mr. Hale.)

MR. KELLER: I would suggest that the Corps of Engineers go back to NEPA and try to understand the language which directs them to perform a past, present and future impact study. These are not affects. They've changed the language, but these are impacts. Cumulative impacts. They've ignored that. Health issues. They've ignored that. On offsite, they haven't really looked at the estuary to harbor. I think this is a regional impact study. It doesn't even come close to the threshold of an areawide impact study.

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Mr. James Cooper - Comments

MR. COOPER: I'm James Cooper C O O P E R, 390 Coral Creek Drive, Placida, Florida 33946, and e-mail jcoop43@comcast.net

And I'm speaking on my behalf as a citizen of Charlotte County because I live on Coral Creek, which happens to be a part of Charlotte Harbor, and part of the area that CHAP is trying to protect.

I'm also speaking as president of the environmental group called, Protect our Watershed, which is also very concerned about protecting the gulf and its durability of Charlotte Harbor, Myakka River, and Peace River during the next 60 years of phosphate mining. So, we're talking about a long period of time in the future. I won't be here but my kids and grand kids will be. So I have several comments for you.

First let me say that because the EIS is so long and so extensive, I've only had it in my physical possession for about two weeks. And I have a full time job so I've not had the time to read it in its entirety, but I have scanned it and looked at certain sections.

I appreciate the fact that they've extended the comment period 15 days, so it's now a 60 day comment period but I really think that is unrealistic. I think that it should be a minimum 120 days and not 60 days

because of the size and scope. This is not a single EIS for one mine, it's an area study for four mines. And they gave a 90 day study for the ONA mine, and that's one mine, and now we're doing four mines. So if I do the math, I know that's not realistic. As a citizen I want to state that is properly out of line.

The second comment I want to make is that June 1st, when they released the AEIS study of all four mines as an area study, they also separately introduced four individual mine permits for the four mines in the study. And I believe it's totally inappropriate to go after the permits until the study is done. So I'm formally requesting that they withdraw the four permits until after the final record decision is made on the mines. And then they put the permits out and take a look at the permits based on the conclusions made in the studies, or else why are we doing the study?

What's the point of the study? There is not really enough information to understand what the future and facts are. So that is my problem with that.

And, for example, I commented on the Ona mine back in 2002, it's a huge report. My comments were completely ignored, I would say, and none of that is in the individual permits right now. So, to me, they're inherently flawed and inappropriate and I think they

should-- they can't withdraw them but they can just put them on hold until the study is done.

Okay, that is my comment on four individual mines, and you know what they are but I can name them, if you like.

The Ona, the Wingate East, DeSoto mine, Mosaic mines and South Pasture.

Okay.

I don't think, from what I've seen, and I haven't read all of the information, I don't think that the water impacts are addressed properly in the AEIS, and let me tell you why.

I did not see, and I'm going to go back and read it, where they're going to get their data. In other words, do they have pre-mining data for the surface water for all of these mine areas? And then they have to compare the pre-mine data with the post mine. Where are they getting pre-mine data?

Along with that, I'm especially concerned that somewhere in the EIS, the last time it was presented to me, it was said, and I may be misquoting this but I'll try to capture what they said.

No new data would be used.

Well, supposedly, according to their manager there, they will use the best data available. So if

they're going to use the best data, then they should use the current data. And I'll give you an example.

The U.S.G.S. is very good at detecting and reading Lidar reports. Lidar is available to map the wetland areas where they are right now in the entire Peace River area, because they've already done that.

So that Lidar data should be given to the Corps, and the Corps should take that Lidar data and use that for the pre-mine condition. I don't believe they're usinq any of it.

So what I'm saying to use is that they just use a regular map and some overlay from some GIS product. That is absolutely not the best data available and if we're going to study this thing, we need to use the best data for the best results. If you don't, then you can't possibly get the best results.

So, secondly, on the water impacts, it's my understanding that the amount of water that's being used from this study, the total amount of water that won't make it to Charlotte Harbor in 2030, this is a big number, 9,672,106,008, that many gallons are not going to get down to the harbor, with all of this mining in 2030, and I think that's billions. That's a lot, almost 10 billion gallons. So that is going to have some effect on Charlotte Harbor and it can't be a bad effect

because they need that water.

The problem is, for example, using the fish as an example, the fish nursery areas are in the saline portion, where fresh water and salt water come together. If you have less fresh water coming down, there's more salt water going up, then you're pushing all the water into a narrow area. If it is in a narrow area, there is not a good opportunity for the fish to grow, which means you won't have as many fish. And if you don't have the fish, you don't have tourism, you don't have the fishing industry. And that's jobs taken away from the future of Charlotte Harbor. That's our tax base.

So I don't want them unintentionally, just because they don't do it properly, affecting the tax base of the entire region here, because they don't take the time to find ways to avoid doing the wrong thing. I think there are ways to do it right. I don't know exactly what they are but they ought to be looked at.

The U.S.G.S. surveys have concluded that existing mining contributes to a loss in ground water level and loss of flow to the Peace River.

But the draft AEIS assumes that even though you have the situation, it's the norm.

But it's not the norm. The comparison should be what it is right now without mining, and what

it is with mining. They're taking what the mining does and saying, this is the norm. Why is mining the norm if they're not mining there.

If they mine in a way that it's less impacted, then we can change that; we can make it better. All I want to see is that they do the best they can to make it better and not to make things worse.

The draft EIS, for some reason, omits a very important thing, that's the impact of the fertilizer plants which turned rocks in fertilizer and big GYP stack mountains they create which, by the way, hold forever hazardous waste, and it can't be used for anything except harming things.

We have a problem like they did, for example, in Manatee County, when they have a GYP stack filling out with rain water, the state spent between 150 million to $200,000,000 in capturing out water by putting in barges and taking it out into the gulf and dumping it.

So what they did is they didn't pollute the harbor, they just polluted the gulf. So where does pollution go? It comes down into our harbor.

So I mean, you know, that's not the best way to do it. There are ways that that can be prevented, but those aren't counted in the study for the water as

are the clay settling areas. And they create these new clay settling areas. The clay settling areas are not covered as being ways of impact because I think that they think they're temporary. Well to me, if a clay settling area sets out there for 20 years or more, it's not temporary. And if I go to turn my faucet on and the water doesn't come out, it's not temporary.

And the problem is, Charlotte County is totally dependent upon the water from Horace Creek, that is our only source of water. Horace Creek feeds into Peace River. And three of these mines will impact those creeks.

So if we see reductions of Horace Creek, we don't have enough water as a result of that, our only alternative is to go buy it from, I guess Peace River Authority through Sarasota County, or somebody else. And we're going to pay a premium for it, yet they're not paying for the water they get.

So we're subsidizing the mining water and we're paying for our own water. There's something about that that doesn't seem fair.

And I'll take that one step further. The miners, somewhere in the document, they talk about they have to locate these phosphate fertilizer plants no further than 10 miles because 10 miles is the farthest

distance they can pump the slurry, which means they take this phosphate, fertilizer far from the-- through water, through pipes up to fertilization plant where they strip it out and they create GYP stacks.

Then why are we using all of that water and paying for our water for them to pump it out? Why don't they just put it in a truck and carry it out?

Because it's cheaper.

So what I'm saying is, 10,000,000 gallons a day? That could probably be dropped down to 7,000,000 a day, if they truck it and not pump it. If they truck it, they would have to pay for it. They don't want to do that. So we're subsidizing a commercial product and we are not getting a turn around investment.

I'm not going to get into valued judgment here.

And they've never explored an alternative because no one has ever asked them to.

One of the alternatives ought to be, let them go get one of these beneficiation plants for the whole area, one of these fertilization plants. I'm not sure what the benefit is, it's a benefit to them and not to us for sure. They should have one or two of them and just truck it away and they wouldn't have to build these new ones at all.

Look at all the money they would save, and all the water we would save. Just a simple thought, okay? Plus you wouldn't have as much of radio active toxic waste.

And in their economic section, they don't look at the value of the resources of Charlotte Harbor at all. All they look at is the value of mining in the central Florida phosphate business, and how many jobs it creates, and how many jobs they created before, and how many railroad cars going down the road, and how many guards they hire. Look at all the people with blue T-shirts on the side here. That's what they look at. They don't look at all the jobs that are wasted as a result of their mining.

And I think this Charlotte Harbor NEP has said the value of Charlotte Harbor's economy, based on keeping it healthy, is 3.2 billion dollars. This far exceeds the value of mining jobs.

I'm not saying stop the mining. I'm saying do the mining in a better way, smarter way that doesn't create impact. That's all I'm saying.

Okay. They have only listed four mines in this area impact statement. I have a huge problem with that. Okay? They don't consider all of the future mines that they know they're going to mine, based upon

permit applications the Army Corps already has. So if the Corps has the permit, knows about the permit, and they have the map in their records, we should hear about that too.

You heard Mr. Fellows say - foreseeable future. I think if you've got it in your possession, that's foreseeable. But they're not including them, they're limiting it to four.

I think I recall that at the last one of these hearings, they logically said we're only going out 20 years. That's not the case because in one of the mine permits, for example, they say the mine is going to last 45 years. Forty-five years is not 20 years.

I looked at one of their surface water studies, they show Pine Level is going up to 2074. So that's more than 60 years. So there's something that doesn't pass the smell test here. You know, it just doesn't smell right.

So my point is, if you're going to go and look at the past, present and reasonable foreseeable future, they should at least go back to two thousand and look at the mines they know they have permitted, because they're out there, right now. And I'll give you a list of some of those mines: Mosaic mines would be Hooker's Prairie, Four Corners, Hopewell, Waltman, Wingate,

Southport Meade. The regular Southport Meade they just closed down. And the South Pasture that they've been running, and those are about to operate, which aren't listed in the EIS, such as the Southport Meade extension, which is over 10,000 acres, in the draft AEIS. So that's like nine mines they don't mention.

So really it should be a 13 mine study, at least. He mentioned some mines in the future they're going to study, he mentioned Pioneer and Pioneer East. If they know about them, they should consider them as alternatives, then why are they not being studied right now?

This is a very simplistic idea. What you do is you take all of these mines and you have a massive spread sheet, and you have a timing - this one is going to start here and this is going to finish here. Line them all up. Okay? How much of the mine is in the same time frame, do the impact on all the major rivers, if they do, and what are the impacts?

Add it all up and if you have 2 percent here, 7 percent, 12 percent, at the end of the day you may have 30 or 40 percent that are impacted when all the mines are working. But you're not going to know it if you don't lay it out. And this is what's happening because this is supposed to be a cumulative effect, not

a site specific. So that's my problem in the basic formation.

So I don't think they're addressing cumulative impacts of the permitted mines operating, or future mines which they know are going to be operating.

Also, the purpose of the need statement, judging the alternatives, the purpose and need proposed by the Corps says: That a mine phosphate within the central phosphate district, and to construct the infrastructure to get that material to the beneficiation, to the fertilizer plant for processing.

So, in other words, it's to make the mining easier. That's the purpose of this study. There is nothing to protect the environment, or the central Florida phosphate district, or the industry, such as Charlotte Harbor. What's the most economical way for the region to benefit and not for the industry to benefit.

There are other alternatives they're not looking at that they could and the general economy would benefit from. For example, if they were hiring guys and trucks and driving them up here, that's a lot more jobs. Somebody has to drive those trucks.

So, you know, and we don't use much water.

Okay. But bottom line is, I think somewhere

in the purpose and need statement, it should be that they should mine in a manner which protects the environment, and it basically insures that the health of the harbor is sustained throughout all the mining they plan to do, and reclamation they plan to do over the next 50, 60, 70 years, whatever it is.

Another thing in the alternative section, in a letter that the EPA wrote to the Corps, in January of 2010, they stated that a no action alternative should also include importing some of the phosphate needed for domestic use rather than just taking it out of Florida.

And the reason for that is that right now they're exporting more of the stuff that they've got - the matrix. More in their matrix is put in fertilizer and exported than is kept in the State of Florida. So if they could bring some of it in, they wouldn't have to mine so much, and they would take it over a longer period of time and it would reduce the impacts on the harbor.

There also are some mines that they mentioned in August of 2010, this letter I have signed by the head of the Army Corps for Florida, Col. Pantano, that lists 11 applications for jurisdictional mining in the Central Florida Phosphate District.

And I don't know some of these mines, I

don't even know where they are anymore because I've lost the bubble. I'm assuming they're either mining or they didn't mine them in the group of 11 that I've given you, these probably should be included too.

One is called the Lambe Tract, SAJ, 2005. 09901-MEP.

Another one is this G & D Farms SAJ 1995 00794 ACR.

This one here, the Four Corners one, and then I think there's Texaco Tract, they've renamed the Wingate.

That's another thing, these guys are masters at mixing things up, in other words, what they try to do is-- this is what they take out a permit for, but then when they go to put it in the EIS, they call it Wingate, when in fact it was Texaco tract. How can you keep up with this stuff? It's impossible.

So anyway, that's what I'm saying to you. They know about this because this is in a letter signed by the guy that runs the Corps.

It defies logic, okay?

Also within this statement they really know they're violating impact because on page 2 of this letter it says: For the above stated reasons, an Area Wide EIS should be prepared to evaluate the cumulative

impacts of the proposed phosphate mines and mine expansions in the Central Florida Phosphate District.

So up front they're saying that's what they're supposed to do. So they simply need to do what they say they're going to do.

In this same document, this is why I told you, they say that they don't consider the mines that don't begin before 2028.

But, yes, they have mines that will last well past that 2028. You can't have it both ways. If you take a mine out for 30, 45 years, you have to have the other mines in there to. If you don't, then you don't have a consistent valid product. In other words, it's not consistent and we need some consistency.

This is another important point, probably my most, not my most important point. This is what I consider to be a problem, a NEPA problem and a violation of the national environmental clause here.

Apparently, what Mosaic has decided to do with this area study, is they've taken two mines, one is called the Keys mine, and one was called Pine Level Mine.

Well the Keys mine and Pine Level mine encompass both Manatee and Desoto counties, and they were sort of laying east to west in Manatee and DeSoto

County.

For whatever reason, and I don't know why, Mosaic decided to take the Keys mine, and Pine level mine and cut them like you would an apple, right down the middle, and the middle happens to be the county line. So everything in DeSoto county, that is both the Keys mine and the Pine Level mine, they're calling it the DeSoto mine. It's got another name now, they're calling it the DeSoto mine. They've left out 6,003 acres of the Keys Tract, that's in Manatee County, and they left out the 14,029 acres of Pine Level, which is on this map, which is in this EIS by the way, which is put together by Manatee County. So I think it's probably valid. So they basically left out 20,000 acres of this combined Pine Level and Keys.

According to NEPA rules, you can't cut a product in half. You have to consider it a whole. If it's cut in half, it's called tiering and it's illegal. You cannot do it.

Maybe what they're trying to say is, we changed the name, so now it's not tiering.

Well you can change the name but the mine is still the mine area. And there are no other mine areas because you have the map of the mine area.

So I'm sorry, but this is a little bit over

the top in terms of being in compliance with NEPA rules.

This seriously needs to be looked at or it's going to be looked at in Federal Court.

First the CEQ is going to look at it and take it back to them. And the reason the CEQ is going to look at it is because I'm going to bring it to their attention.

I'm just trying to tell you that right now because that's important. I mean, if they're going to play the game, they have to play it by the rules. These are not state rules, these are federal rules. And these folks are not good at playing at federal rules because they've never done it before.

They've never ever been thor an AEIS process. They started one for the Ona mine 13 years ago and they never completed it. And now suddenly it's coming back like Freddie in a ski mask. But they waited 13 years to do it.

My point is, there's a reason that they wailed. I'm not sure what the reason was but there's a reason. So they have not had an evaluation of the federal rules here - never, ever. So it's about time, that if they're going to play by the federal rules that we follow the federal rules.

And all of the federal rules, they're not

hard rules, they're very well defined. All they need to do is to try to make sure you don't have significant impacts that can be avoided.

That's all I'm saying, they're a big company, they spend a lot of money. They spent 13 million dollars to defend themselves for need. If they spent that money on AEIS, we'd have a product that's dynamite and we wouldn't have to be talking about this today.

So why are they spending money on attorneys when they could be spending it doing a better product?

I would just like to see them put their hands up and say, we want to be cooperative with the community. They say that and they have really nice people working for the company. They have good corporate people, they're all professionals, but somehow they just don't want to have to if they don't have to deal with those federal rules. And I don't understand that because I used to be in the Air Force and I did an EIS, and we totally followed the federal rules. And we got the product done, and we got it done in three years.

And we covered an entire state, small state, Idaho but still. So, you know, I know that it can be done better because I've done it myself. And they're a much bigger company, they have more money and more

employees. So, you know, I would just like to see them, if they can do their best, I will be mighty happy.

And it goes along with the Corps too, I'll be mighty happy. But if they don't, I think the citizens are being short changed because the Corps gets paid with taxpayers' money.

That's it.

(Conclusion of statement at 7:55 PM).

C E R T I F I C A T E

I hereby certify the foregoing is a true and accurate transcript of my stenographic notes taken at the time and place herein set forth.

Dated the 25th day of June 2012.

Pauline D. Terry

Pauline D. Terry, Court Reporter

Submission number 200

RECEIVED
JUL 05 2012
Tampa Regulatory Office

# FLORIDA DEPARTMENT of STATE

**RICK SCOTT**
Governor

**KEN DETZNER**
Secretary of State

June 27, 2012

Ms. Lauren Milligan
Florida State Clearinghouse
Agency Contact & Coordinator (SCH)
3900 Commonwealth Blvd. MS-47
Tallahassee, FL 32399-3000

Re: SHPO/DHR Project File No.: 2012-2452 / **SAI#: FL201205296249C**
US Army Corps of Engineers – Jacksonville District
**Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District**
Counties: Charlotte, DeSoto, Hardee, Hillsborough, Lee, Manatee, Polk and Sarasota

Dear Ms. Milligan:

This agency reviewed the referenced draft document and our files to identify issues regarding cultural resource/historic property that may have been overlooked or need further consideration prior to finalization of the Environmental Impact Statement (EIS). The cultural resource data collection is very thorough and well documented. However, the data synthesis does not reflect an analysis of the cultural resource surveys that have been conducted to ensure that they meet current survey standards, both federal and/or state. We would like to point out that cultural resource surveys that pre-date 1990 may not include any subsurface testing, or very limited testing of this nature. Many early surveys conducted in the mining district in the 1970s and the early 1980s were pedestrian, surface inspection level only field surveys. This is a significant concern of this agency and we have addressed it on a project by project basis.

If there are any questions concerning our comments or questions, please contact me or Scott Edwards by phone at 850.245.6333, or by e-mail at Laura.Kammerer@DOS.MyFlorida.com or Scott.Edwards@DOS.MyFlorida.com.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer

Pc: John Fellows, USACE
David Pugh, USACE

Submission number 201

# MANATEE COUNTY
## FLORIDA

RECEIVED
JUL 0 2 2012
Tampa Regulatory Office

June 29, 2012

John Fellows
AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Draft Area-wide Environmental Impact Statement (AEIS) Phosphate Mining in the Central Florida Phosphate District – **Extension of Public Comment Period**

Dear Mr. Fellows:

Manatee County has a vested interest in the development of the AEIS since we are located within the defined Bone Valley Region and contain the site specific project known as Wingate East Tract. In order for staff to effectively review, comment and coordinate activities with partners such as the Charlotte Harbor National Estuary Program (CHNEP), **we request a 90-day extension of the public comment period beyond the July 15th published comment deadline for the above referenced document.** The size and detail of the AEIS warrants an extended public comment period.

If you have any questions, please contact Mr. Rob Brown at (941) 742-5980 ext. 1870 or by e-mail to rob.brown@mymanatee.org.

Sincerely,

John Chappie

JOHN CHAPPIE
Chairman

Board of County Commissioners
Mailing Address: P.O. Box 1000, 34206 * Street Address: 1112 Manatee Avenue West, Bradenton, FL 34205
PHONE: 941.745.3700 * FAX: 941.745-3790
www.mymanatee.org

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000202 |
| **Received:** | 07/09/2012 02:13:56 PM |
| **Organization:** | Mulberry Community Service Center, Melanie Anderson |
| **Commenter Type:** | Non-profit Organization |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

General

<([#1 [49]Mulberry Community Service Center is a non-for-profit organization that serves the greater Mulberry area and South Lakeland. We provide food, clothing, assistance with utility bills, rent assistance and various others areas of asssistance to those in need, along with being an Access site for individuals to apply for food stamps, child support, cash assistance, etc. We also conduct financial education classes for families and individuals.

Mosaic has played a large role in the success of the Mulberry Community Service Center with their community investments. Through monetary donations they have afforded us the opportunity to provide school uniforms for children in the Mulberry schools. Grants from Mosaic allows us to conduct financial education classes by providing curriculum and other materials needed. Mosaic also provides the Center with large food donations and a great amount of meat every year to feed families in crisis situations.

The community and economic impact that Mosaic has on this area is great. Through their financial success and generosity to this community we are able to help many men, women and children ease the worries of where their next meal will come from or whether or not they will have water or electricity. Along with educating them in how to handle finances for a more promising future.
#1])>

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52439 |
| **Hide Submitter:** | |
| **Commenter Type:** | Non-profit Organization |
| **Name Prefix:** | |
| **First Name:** | Melanie |
| **Last Name:** | Anderson |
| **Name Suffix:** | |
| **Title:** | Executive Director |
| **Organization:** | Mulberry Community Service Center |
| **Division:** | Not Applicable |
| **Address Line 1:** | 301 NE 5th Street |
| **Address Line 2:** | |
| **City:** | Mulberry |
| **State/Province:** | Florida |
| **Postal Code:** | 33860 |
| **Country:** | |
| **Phone:** | 863-425-1523 |
| **Fax:** | 863-425-4894 |
| **Email:** | mulberrycsc@gmail.com |
| **Number of Additional Commenters:** | 0 |

Submission number 202

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000203 |
| **Received:** | 07/10/2012 01:27:15 PM |
| **Organization:** | ArrMaz Custom Chemicals, Robert Trsek |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

Zoom

General
<([#1 [49]The need for a clean enviornment that protects native plants and animals is needed and wanted by eveyone. There is also a need for a strong economy and preservation of local **American** economies. Both needs must be met with sound management and real cost/benifit accessments.

The needs of Government, special interest groups and corporations must be considered but it is the "People" that come first.

In short, Mines must stay open, but regulated with smaller Government.

#1])>

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52440 |
| **Hide Submitter:** | |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Robert |
| **Last Name:** | Trsek |
| **Name Suffix:** | |
| **Title:** | Quality Assurance Supervisor |
| **Organization:** | ArrMaz Custom Chemicals |
| **Division:** | Not Applicable |
| **Address Line 1:** | 400 Christopher Court SE |
| **Address Line 2:** | |
| **City:** | Winter Haven |
| **State/Province:** | Florida |
| **Postal Code:** | 33884 |
| **Country:** | |
| **Phone:** | 863-602-7977 |
| **Fax:** | 863-425-5964 |
| **Email:** | rtrsek@am-cc.com |
| **Number of Additional Commenters:** | 0 |

Delete Commenter

Submission number 203

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000204 |
| **Received:** | 07/10/2012 01:33:45 PM |
| **Organization:** | ArrMaz Custom Chemicals, Robert Trsek |
| **Commenter Type:** | Company |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

Zoom

General
<([#1 [49]Mines must stay open but regulated by smaller Government.

The United States of America was founded "For the People" not the Sierra Club

Its just that easy
#1])>

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52441 |
| **Hide Submitter:** | |
| **Commenter Type:** | Company |
| **Name Prefix:** | |
| **First Name:** | Robert |
| **Last Name:** | Trsek |
| **Name Suffix:** | |
| **Title:** | Quality Assurance Supervisor |
| **Organization:** | ArrMaz Custom Chemicals |
| **Division:** | Not Applicable |
| **Address Line 1:** | 400 Christopher Court |
| **Address Line 2:** | |
| **City:** | Winter Haven |
| **State/Province:** | Florida |
| **Postal Code:** | 33884 |
| **Country:** | |
| **Phone:** | 863-602-7977 |
| **Fax:** | 863-425-5964 |
| **Email:** | rtrsek@am-cc.com |
| **Number of Additional Commenters:** | 0 |

Delete Commenter

Submission number 204

Submission number 205

-----Original Message-----
From: McElwain, Tunis W SAJ
Sent: Monday, July 09, 2012 9:52 AM
To: thekingsom@gmail.com
Cc: Kinard, Donald W SAJ; Fellows, John P SAJ
Subject: RE: Draft EIS of Bone Valley Phosphate Mining (UNCLASSIFIED)

Dear Ms. King:

Thank you for your e-mail below concerning the Areawide Environmental Impact Statement on Phosphate Mining Within the Central Florida Phosphate District (AEIS). My name is Tunis McElwain and I am the Mining Coordinator for the Regulatory Division within the Jacksonville District and I have been asked to reply to you on behalf of Col Dodd. I have also copied John Fellows, the Project Manager for the AEIS, who can follow-up and any additional questions you may have.

We are in complete agreement that the AEIS should be the best possible product, which is why the Corps has a team of very talented professionals working on the project. The comment period for the Draft AEIS has been extended until July 31, 2012, please find attached a copy of the public notice announcing the decision. Should you require any additional information concerning the AEIS please contact John Fellows or the AEIS website. I have included the website below for your convenience.

http://www.phosphateaeis.org/

Thank you for your interest in the Corps Regulatory Program and in the AEIS.

Sincerely,

Tunis W. McElwain
Mining Coordinator
Regulatory Division
Jacksonville District

Office: 239-334-1975, ext 30
Fax: 239-334-0797

From: Helen King [mailto:thekingsom@gmail.com]
Sent: Saturday, July 07, 2012 03:11 PM
To: Dodd, Alan M SAJ
Subject: Draft EIS of Bone Valley Phosphate Mining

Dear Colonel Dodd:

Our group has been actively involved in the public input process for the upcoming Areawide Environmental Impact Statement. We want to ensure the best possible protections for our water and our environmental systems during and after mining. This document only analyzes 4 future mines totaling 62,000 acres, yet we are aware of an additional 6 mines totaling over 60,000 acres of future mining in the Bone Valley. Since this document will be the only comprehensive " big picture" look ahead and proper EPA rules for cumulative impacts for the next 50 years of mining, we feel it is imperative that this becomes the best possible roduct.

Therefore, due to the massive size of this document, we respectfully request an extension of 30 days beyond the 60 day comment period to adequately provide well researched comments. We also intend to comment on the 4 mines that applied at the same time for their Clean Water Act Permit Section 404. We are requesting that those permit requests are put " on hold " until after the final AEIS has been approved and the Record of Decision is made.

I laud your experiences in the Army. One of my sons is currently stationed in Zhari, Afghanistan, and so I am aware of the dedication you have to our special country. I am sure your new position will be taken with the same attention to detail and voracity as your previous commitments.

Thank you for your attention.

Sincerely,

Helen Jelks King, O.D.

Vice President, Protect Our Watersheds, Inc.

Classification: UNCLASSIFIED
Caveats: NONE

Submission number 208

-----Original Message-----
From: Henry Kuhlman [mailto:hjkuhlman@gmail.com]
Sent: Monday, June 25, 2012 12:14 AM
To: Fellows, John P SAJ
Subject: Mining EIS Comment Extension

Please grant a 90 day extension to the current deadline so the public has time to digest the report. It is a lot of material to consume & analyze. I live in the midst of Hardee County and am very interested in providing public input.
Thank You,
Henry Kuhlman

Sent from my iPhone

Classification: UNCLASSIFIED
Caveats: NONE

Submission number 209

-----Original Message-----
From: Demers, Dr. Nora [mailto:ndemers@fgcu.edu]
Sent: Monday, June 04, 2012 2:32 PM
To: Fellows, John P SAJ
Subject: extension on AEIS comments

Hello Mr. Fellows,

Will you please extend the comment period time for the AEIS on Phosphate Mining in the Central Florida Phosphate District to at least 120 days?

Thanks for your help!

Have a great day!

Nora Egan Demers, PhD
Associate Professor of Biology and Interdisciplinary Studies

10501 FGCU Blvd S
Florida Gulf Coast University
Ft. Myers, FL 33965
(239) 590-7211 FAX (239) 590-7200
e-mail ndemers@fgcu.edu <mailto:ndemers@fgcu.edu>
http://itech.fgcu.edu/faculty/ndemers/demers.html
<http://itech.fgcu.edu/faculty/ndemers/demers.html>

and the media, upon request, unless otherwise exempt. Under Florida law, e-mail addresses are public records. If you do not want your email address released in response to a public records request, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

Classification: UNCLASSIFIED
Caveats: NONE

Submission Postcards
(numbers 210 through 261)

## Great Blue Heron and Nest

*Postcard images courtesy of Florida naturalist and water quality expert John Kiefer, PE, PhD.*

*Photographed at CF Industries' Hardee County (Florida) North Pasture reclamation site. Post-mining, Spring 2011.*

CFIndustries

Phosphate Operations
Helping Farmers Feed a Hungry World

6209 N. County Road 663 ▪ Bowling Green, FL 33834
▪ 863-375-4321 ▪ www.cfindustries.com

Dear ACOE, 210

I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that **no future limitations** on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides.

I urge the ACOE to approve the projects as proposed by the applicants.

Name: Victor Gutierrez
Address: 8831 Ten mile
Grade Zolfo springs

I AM A CF INDUSTRIES EMPLOYEE, CONTRACTOR or FAMILY MEMBER

Submission number 263

-----Original Message-----
rom: Gonzalez, Nan [mailto:NGonzalez@leegov.com]
Sent: Wednesday, June 06, 2012 10:34 AM
To: Fellows, John P SAJ
Cc: Dist1, John Manning; Dist2, Brian Bigelow; Dist3, Ray Judah; Dist4, Tammy Hall; Dist5, Frank Mann; Hunt, Michael; Hawes, Karen; Meurer, Douglas; Ottolini, Roland; Collins, Donna Marie; Sanchez, Maria
Subject: Request from the Lee County Board of County Commissioners for a 90-day extension for comments
Importance: High

Please review the attached letter. The original is in the mail to you.

John Manning, Chairman

Commissioner John Manning

District One Office
Lee County Board of County Commissioners

Nan Gonzalez - Executive Assistant

Telephone: (239) 533-2224

Fax: (239) 485-2155

Email: Dist1@leegov.com <mailto:District1@leegov.com>

US Mail: PO Box 398, Fort Myers, Florida 33902-0398

Office: 2120 Main Street, Fort Myers, Florida 33901

P

Please consider the environment before printing this email note.

---



Classification: UNCLASSIFIED
Caveats: NONE

LEE COUNTY
SOUTHWEST FLORIDA

Telephone (239) 533-2236
Facsimile (239) 485-2106

BOARD OF COUNTY COMMISSIONERS

John E. Manning
*District One*

Brian Bigelow
*District Two*

Ray Judah
*District Three*

Tammy Hall
*District Four*

Frank Mann
*District Five*

Karen B. Hawes
*County Manager*

Michael D. Hunt
*County Attorney*

Diana M. Parker
*County Hearing Examiner*

June 5, 2012

**VIA U.S. MAIL & E-MAIL**: John.p.fellows@usace.army.mil

John Fellows
USACE AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

RE: Draft Areawide Environmental Impact Statement (AEIS)
Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

Lee County intends to provide comments on the Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Given the size and detail of the AEIS, the Lee County Board of County Commissioners respectfully requests a 90-day extension beyond the July 15th comment deadline in order to afford sufficient time for a comprehensive review of the document as well as the opportunity to prepare articulate and well reasoned comments.

In addition, we respectfully request confirmation of the Corps agreement to this request in writing.

Sincerely,

John E. Manning, Chair
Lee County Board of County Commissioners

cc via e-mail only:
Commissioner Brian Bigelow
Commissioner Tammara Hall
Commissioner Ray Judah
Commissioner Frank Mann
Michael Hunt, County Attorney
Karen Hawes, County Manager
Douglas Meurer, Assistant County Manager
Roland Ottolini, Division Director, Natural Resources

Submission number 264

**Charlotte Harbor National Estuary Program**
1926 Victoria Avenue, Fort Myers FL 33901
239/338-2556, Fax 239/338-2560, *www.chnep.org*

Via e-mail: John.P.Fellows@usace.army.mil

June 13, 2012

John Fellows
AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Draft Area-wide Environmental Impact Statement (AEIS) Phosphate Mining in the Central Florida Phosphate District – **Extension of Public Comment Period**

Dear Mr. Fellows:

The Charlotte Harbor National Estuary Program (CHNEP) is a partnership program, created by Section 320 of the Clean Water Act, to protect the greater Charlotte Harbor estuary, recognized as an estuary of national significance. CHNEP adopted a *Comprehensive Conservation and Management Plan* (CCMP) for the estuary and its watershed.

**We request a 90-day extension of the public comment period beyond the July 15th comment deadline for the above referenced proposed modifications.** CHNEP is a participating agency for the AEIS. We work through a broad partnership of stakeholders and a management conference structure of four committees. The size and detail of the AEIS warrants an extended public comment period. In addition, the extension will allow our Citizen Advisory Committee, Management Committee and Policy Committee to discuss and act on the CHNEP response to the draft AEIS.

If we can be of assistance in furthering your efforts or if you have any questions, please contact me at the Charlotte Harbor National Estuary Program office at (239)338-2556 x 235 or by e-mail to lbeever@swfrpc.org.

Sincerely,

Lisa B. Beever, PhD, AICP
Director
Charlotte Harbor National Estuary Program

Submission number 265

-----Original Message-----
From: Jim Beever [mailto:jbeever@swfrpc.org]
Sent: Tuesday, June 19, 2012 11:45 AM
To: Fellows, John P SAJ
Cc: Rebekah Harp; Margaret Wuerstle; Liz Donley; Lisa Beever
Subject: FW: Extension request letter for the Phosphate Mining EIS

Attached please find an electronic copy of a letter requesting an extension for the review period of the Draft Area-wide EIS for Phosphate Mining in the Central Florida Phosphate District.

Thank you

Jim Beever

Southwest Florida Regional Planning Council

1926 Victoria Avenue

Fort Myers, Florida 33901

Telephone (239) 338-2550 ext 224

Fax (239) 338-2560

E-mail: jbeever@swfrpc.org

Website: http://www.swfrpc.org/

SWFRPC
Plan Protect Improve

# Southwest Florida Regional Planning

www.swfrpc.org
1926 Victoria Avenue
Fort Myers, FL 33901
Phone: (239) 338-2550
Fax: (239) 338-2560

Via e-mail: John.P.Fellows@usace.army.mil

June 18, 2012

John Fellows
AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Draft Area-wide Environmental Impact Statement (AEIS) Phosphate Mining in the Central Florida Phosphate District – **Extension of Public Comment Period**

Dear Mr. Fellows:

The staff of the Southwest Florida Regional Planning Council reviews various proposals, Notifications of Intent, Pre-applications, permit applications, and Environmental Impact Statements for compliance with regional goals, objectives, and policies, as determined by the Strategic Regional Policy Plan. The staff reviews such items in accordance with the Florida Intergovernmental Coordination and Review Process (Chapter 291-5, F.A.C.), and adopted regional clearinghouse procedures.

These designations determine Council staff procedure in regards to the reviewed project. The four designations are:

Less Than Regionally Significant and Consistent- No further review of the project can be expected from Council.

Less Than Regionally Significant and Inconsistent- Council does not find

the project of regional importance, but will note certain concerns as part of its continued monitoring for cumulative impact within the noted goal area.

Regionally Significant and Consistent- Project is of regional importance, and appears to be consistent with Regional goals, objectives, and policies.

Regionally Significant and Inconsistent- Project is of regional importance and does not appear to be consistent with Regional goals, objectives, and policies. Council will oppose the project as submitted, but is willing to participate in any efforts to modify the project to mitigate the concerns.

We have been requested to review the Draft Area-wide Environmental Impact Statement (AEIS) Phosphate Mining in the Central Florida Phosphate District by the Florida Sate Clearinghouse.

We request a 90-day extension of the public comment period beyond the July 15th comment deadline. The size and detail of the AEIS warrants an extended public comment period. In addition, the extension will potentially allow our Council the opportunity to discuss and act on the SWFRPC response to the draft AEIS.

If you have specific questions about the content of this letter, please contact Mr. Jim Beever directly at (239) 33802550 ext 224, e-mail jbeever@swfrpc.org.

Sincerely,

Margaret Wuerstle

Margaret Wuerstle, AICP
Executive Director
Southwest Florida Regional Planning Council

CC: Ms. Lauren P. Milligan
Department of Environmental Protection Florida State Clearinghouse
3900 Commonwealth Boulevard, M.S .47
Tallahassee, Florida 323 99-3 000

Mr. Kevin D. O' Kane
Chief, Tampa Section
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Submission number 267

June 7, 2012

Mr. John Fellows
US Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Colonel Alfred A. Pantano
U.S. Army Corps of Engineers – Jacksonville District
701 San Marco Boulevard
Jacksonville, FL 32207-0019

Dear Mr. Fellows and Colonel Pantano:

Although Charlotte County is not within the Central Florida Phosphate Mining District (CFPD) boundary, the 1978 AEIS apparently recognized the many social, economic and environmental connections between the upper Central (CFPD) and lower parts of the watershed and included Charlotte County Florida.

Charlotte County is only 60 miles 'downstream' of the 100 square miles of proposed phosphate strip-mining in western Hardee County and less than 30 miles 'downstream' from the 50 square mile Pine Level mine proposed in neighboring Manatee and DeSoto counties. Accordingly, we believe there is a much greater potential for the proposed mining to adversely impact the 'downstream' resources of Charlotte County and the Harbor than there is for adverse impacts to occur to most of the areas upstream within the proposed AEIS (CFPD) study area. I understand that comments are being taken on the Federal Register on the draft "Area Wide Environmental Impact Statement" (EIS) but the 45 days for review process is not sufficient. This review should be at least a 90 day process to properly evaluate the social, economic and environmental impacts this draft (EIS) could have on the region and Charlotte Harbor.

I would like to make you aware of the extreme importance of the evaluation process we face as a Participating Agency, and how important this could be on generations on many social, economic, and possible severe environmental consequences.

Thank you for your time and consideration.

Sincerely,

Robert J. Starr, District #1
Charlotte County Board of
County Commissioners



RJS/dmg/12-58

18500 Murdock Circle, Suite 536 | Port Charlotte, FL 33948-1068
Phone: 941.743.1300 | Fax: 941.743.1310

Submission number 268

Dennis Mader
Executive Director, 3PR (People for Protecting Peace River, Inc)
P.O. Box 155
Wauchula, FL 33865

John Fellows
USACE AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

June 9, 2012

Dear Mr. Fellows,

I am writing on behalf of 3PR (People for Protecting Peace River, Inc) a 501-C3 not-for-profit public interest group of Wauchula, Florida, dedicated to conservation of land and wildlife resources, environmental health, preservation of biological diversity, toxic waste reduction, and the preservation of coastal and freshwater ecosystems - all of which are currently affected by the phosphate strip mining and fertilizer industry in central Florida. In 2005 the Peace River was declared an "endangered river" by American Rivers, as a result of dwindling water flow, destruction of flowing springs, and the occurrence of sinkholes in the northern portion of the river. Since the release of the Peace River Cumulative Impact Study by the Florida DEP (2007) our attention has been focused exclusively on the phosphate industry.

Our organization has been an eager and willing participant in the Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate Mining District. We advocated for the undertaking of this study, attended all workshops in anticipation of the AEIS including the EPA conference in Punta Gorda, and submitted our suggestions and comments for inclusion in the study. And yes, 3PR was also a litigant in the June 2010 lawsuit challenging insufficiencies in the 404 Dredge and Fill Permit that the U.S. ACE issued for Mosaic's South Fort Meade Mine Extension. I emphasize, however, that we consider litigation to be the least desirable manner by which

we seek to interrelate to the U.S. ACE, and we are hoping that as the AEIS process unfolds we will have adequate and fair opportunity to participate and know that our concerns are being met by our federal government regulators. I have read on your website that, "Jacksonville District is committed to... *providing opportunities for the public to participate in programs and projects that affect them and their families*...(which) include meetings and workshops, and *opportunities for public review and comment on Jacksonville District project studies and plans*...." If you are true to your word then I feel we can look forward to a productive and mutually respectful experience as the AEIS moves forward.

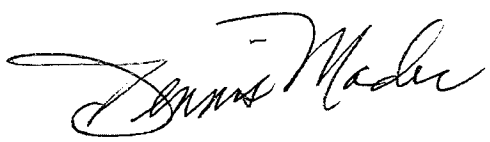
I have before me in digital format the 1063 page Draft AEIS. According to the figures in Table ES-1 of the Executive Summary if the phosphate industry is permitted to realize all foreseeable mining projects (alternatives) in Hardee County an additional 116,000 acres will fall before the dragline. The community in which I personally live which is currently dedicated to citrus groves and cattle pastures will be completely engulfed by strip mines. Therefore the fair administration and scientific validity of the AEIS is a matter of critical importance to me personally and to the organization and the community that I represent.

I would like to reiterate what I stated in a previous letter I wrote accompanying our comments and suggestions in April 2011: *Only the phosphate mining and fertilizer industry will benefit from the abbreviated time-frame outlined for accomplishment of the AEIS*. Organizations like 3PR who exist to protect the integrity of the natural environment are staffed by volunteers – we will require more than 45 days to review the volumes of material that constitute the DAEIS and to consult with our experts on the details of its content. ***To make this process fair and equal to all parties, we are requesting respectfully that you allow us an additional 90 days in addition to the 45 day deadline the U.S. ACE has initially set to prepare and submit our comments on the DAEIS.***

I thank you for your consideration and your willingness to make it possible for us to work with the U.S. ACE and to participate in the review and submission of comments to what outwardly appears as a very thorough and comprehensive report.

Please notify me in writing of your receipt of this letter.

Yours Truly,



Dennis Mader
Executive Director, 3PR
protectpeaceriver@gmail.com

Submission Postcards
(numbers 269 through 271)

## Doe Branch Prairie

*Postcard images courtesy of Florida naturalist and water quality expert John Kiefer, PE, PhD.*

*Photographed at CF Industries' Hardee County (Florida) South Pasture reclamation site. Post-mining, Fall 2010.*

CFIndustries

Phosphate Operations
Helping Farmers Feed a Hungry World

6209 N. County Road 663 ▪ Bowling Green, FL 33834
▪ 863-375-4321 ▪ www.cfindustries.com

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Dear ACOE,

I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that **no future limitations** on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides.

I urge the ACOE to approve the projects as proposed by the applicants.

Name: Anthony J. Aguirre
Address: 434 Webb Road
Wauchula, FL 33873

I AM A CF INDUSTRIES EMPLOYEE, CONTRACTOR or FAMILY MEMBER

Submission number 272

-----Original Message-----
From: Dianne Robertson [mailto:droberts@scgov.net]
Sent: Thursday, July 12, 2012 9:49 AM
To: Fellows, John P SAJ
Cc: Theresa Connor; Dara Hunter; David Pearce; Melissa Wagar; Debbie Gates
Subject: Sarasota County Draft AEIS Comments

Mr. Fellows, I am resending the letter I emailed to you earlier this morning in order to include Sarasota County's team credentials. My apologies.
Dianne Robertson

Mr. Fellows: The original is in the mail to you.

Dianne Robertson
Executive Assistant to the County Administrator
and Deputy County Administrator
1660 Ringling Blvd, 2nd Floor
Sarasota, FL 34236
941.861.5111 (o); 941.861.5987 (f)
droberts@scgov.net



Classification: UNCLASSIFIED
Caveats: NONE

SARASOTA COUNTY
"Dedicated to Quality Service"

BOARD OF COUNTY COMMISSIONERS
1660 Ringling Boulevard
Sarasota, Florida 34236
Telephone 941-861-5344
Fax 941-861-5987

July 11, 2012

**Via Electronic Mail and Regular U.S. Mail**

John Fellows, USACE AEIS Project Manager
Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

**RE: Draft Area-wide Environmental Impact Statement (AEIS) on Phosphate Mining in the Central Florida Phosphate District**

Dear Mr. Fellows:

Thank you again for the opportunity to participate in the process involving the Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. The Sarasota County Board of County Commissioners has never expressed a position wherein all phosphate mining ceases in the Central Florida Phosphate District. Rather, the Board has expressed desires for reasonable alternatives or mitigation measures. In that spirit, the Commission hopes to provide some constructive comments to help create a better Final AEIS.

This correspondence includes comments from our professional staff who have reviewed the draft document. The credentials of the review team are attached to this letter as Exhibit "A." Citations and hyperlinks to the Code of Ordinances of Sarasota County and Sarasota County Comprehensive Plan have also been provided for reference. Both the Code and Comprehensive Plan are available in their entirety on the internet. The Code of Ordinances is found is available at a website owned by the Municipal Code Corporation, a private sector host for City/County ordinances, at this hyperlink (Sarasota County Code of Ordinances). Additionally, the Comprehensive Plan, which the Board of County Commissioners enacted through Ordinance No. 89-18, as amended, is available at this hyperlink (Sarasota County Comprehensive Plan).

As explained below, Sarasota County has specific concerns about the Alternatives listed in Chapter 2 of the Draft AEIS because of its own ordinances governing mining. Additionally, the County has concerns about mitigation, aquifer recharge and drawdown, and cumulative impacts that should be addressed in the final document.

Curiously, the discussion of the environmental consequences of mining (Chapter 4) is considerably lengthier than the discussion about mitigation (Chapter 5). The discussion of mitigation gives a conclusory assertion of an "evolution" in technology, but does not explain how this evolution took place, and gives no empirical data which demonstrates that the post-reclamation wetlands and streams resemble native habitats in soil type, soil pH, dominant

vegetative species composition, species richness or diversity, use by wetland dependent species, microtopography, or hydroperiods. Despite assertions by the industry that undesirable vegetative species in restored wetlands will inevitably die out and give way to desired species, some of the oldest reclamation sites are still dominated by wax myrtle or Carolina willow. Given the doubts expressed again and again about the efficacy of past reclamation and restoration technologies in past state administrative litigation involving the Manson Jenkins tract, Altman Tract, Ona-Ft. Green Extension and South Ft. Meade Extension, the Draft AEIS should provide an in depth discussion as to the reasons why it is believed that current technology will correct past failures. Again, thank you for the opportunity to provide the following comments:

**Comments from Theresa Connor, P.E., Director of Environmental Utilities**

Surface Water Resources:

Chapter 3 - Affected Environment; Chapter 4 – Environmental Consequences; Appendix E – Surface Water Analysis:

- The Southwest Florida Water Management District (SWFWMD) has established Minimum Flows and Levels (MFLs) for the Peace River and Myakka River Basins as discussed in Table 3.5 – River Reach Definition and Summary of MFL Establishment for AEIS Surface Water Bodies and subsequent pages in Chapter 3. SWFWMD established the MFLs based upon seasonality of flow characteristics of the waterbodies. The MFL for the Middle Peace River at the Arcadia Gage indicates that flows below 67 cfs should be reserved for the environment and not be impacted. The analysis of flows to the Peace River documented in Chapter 4 and Appendix E do not take into account seasonality of flow and provide information based upon an annual average basis. The AEIS needs to be redone to account for seasonality of flows within the Peace and Myakka River basins and demonstrate that the low flows (flows below 67 cfs) are protected and will not be impacted. Having a minimal impact on an annual average basis does not provide sufficient assurance that low flow conditions will not be impacted. The analysis should use the three seasonal block scheduled used by SWFWMD in the MFL analysis.

- The development of coefficients of runoff provided in Appendix E Table 5 is not documented to provide clarity in how the runoff coefficients were developed. The coefficients of runoff used do not match data develop for southwest Florida by the U.S. Geological Survey based upon local data. In the report Evaluation and Modification of Five Techniques for Estimating Stormwater Runoff for Watersheds in West-Central Florida, by J.T. Trommer, J.E. Loper, and K.M. Hammett, Water Resources Investigations Report 96-4158, the coefficient of runoff for non-urban watersheds in west central Florida was found to be 0.16. In this report the U.S. Geological Survey does note the following: "The coefficient of runoff is the most subjective parameter estimated in the rational method and is the most probable source of error when applied to west-central Florida watersheds." This study went on to find that when modeling infiltration and other factors affecting stormwater runoff required modification of assumptions made in

routine stormwater modeling programs such as USEPA Storm Water Management Model (SWMM) and should use site specific data to accurately estimate stormwater runoff volumes. There is substantial local gage data to more accurately model rainfall to runoff characteristics. This study should use that data and building block approach used in SWFWMD's MFL program to more accurately characterize the impact of phosphate mining's impact on surface water resources.

- Table 4.19. Phosphate Mine Discharge Mean Water Quality Values for Selected Active Mosaic and CF Industries Mine NPDES Outfalls: This table includes a column to include Class III Criteria for select water quality parameters including Total Phosphorus (TP) and Total Nitrogen (TN). In February 2012, the Florida Legislature adopted Numeric Nutrient Criteria for state waterways that established TP and TN values of 0.49 mg/L and 1.45 mg/L respectively for the West Central basin. The TP values for each outfall is at least double the establish water quality criteria. A Water Quality Based Effluent Limitation (WQBEL) should be established for the Peace River by DEP prior to any future mining outfalls being permitted.

- Table 4.21. Mean Water Quality Monitoring Data for Four Corners Mine; Background, Outfall 001 and Downstream Locations, 2005-2010: This table shows data for background and downstream locations but only includes 16-21 samples over a six year time period and does not include any adjustment for seasonality or statistical analysis of the data. Because this data sample is not statistically significant and does not account for any type of seasonal adjustments, it should not be considered representative of potential impacts from mining discharges. This analysis should include a statistically significant, well documented analysis of mining discharges into the Peace and Myakka waterways.

**Comments from John Ryan, Environmental Manager**

- The negative impacts of phosphate mining on Florida's environment have been reduced over the decades. Drastic aquifer drawdowns, for example, are less than they used to be. According to FDEP Bureau of Mines staff (personal communication at AEIS meeting) many of the permit requirements that result in better mining practices are not codified in law. The AEIS should include an analysis of permit conditions that minimize the negative impacts of mining, so that those permit conditions are included in future mining permits issued by the ACOE. It would make sense for the AEIS recommendations to suggest that such permit conditions be codified in law or policy.

- Figure ES-4 depicts a map of the AEIS Alternatives. It appears that about 60-70 percent of the CFPD in the Myakka Watershed will be mined. The cumulative effects of a large percentage of the Myakka watershed being mined suggests the limited range of the 4 mines being considered for this AEIS may be insufficient to protect the Wild and Scenic Myakka River and the tens of thousands of acres preserved in the Myakka State Park plus lands protected by the SWFWMD and the Sarasota County Environmentally Sensitive Lands Protection Program.

- Sarasota County in cooperation with partners has a significant investment in preservation of natural systems. Connectivity to other preserves is a well established concept for wildlife management. For example, new research published online in The Royal Society's journal *Biology Letters* shows that "clustered habitat networks" are needed to maintain the genetic diversity of Florida Scrub-Jays, a species at risk of extinction with just more than 9,000 birds left in the world (Boughton and Bowman 2011). The AEIS should support interconnectivity of wildlife corridors to protect the preserved areas in Sarasota County as well as those comprising regional habitat networks vital for the long-term persistence of numerous listed and common species.

  Boughton, R. and Bowman, R. 2011. State wide assessment of Florida Scrub-Jay on managed areas: A comparison of current populations to the results of the 1992-93 survey. Report to USFWS.

- According to the Ground Water Atlas of the United States (HA 730-G) "The intermediate aquifer system is the main source of water supply in Sarasota, Charlotte, and Lee Counties Florida, where the underlying Floridan aquifer system is deeply buried and contains brackish or saltwater....In most places, water moves downward from the surficial aquifer system and through the upper confining unit of the intermediate aquifer system;...water moves outward in all directions from two recharge areas in southwestern Polk County". Chapters 3 and 4 of the draft AEIS do not provide a sufficient analysis of the impacts of impervious materials like clay settling areas and clayey materials used as backfill in deep mine cuts that would reduce the lateral recharging of this locally very important intermediate aquifer. The intermediate is the dominant aquifer for private wells because it is suitable for consumption with modest treatment methods. In addition, insufficient analysis is given to the potential for saline upwelling from the Floridan into the intermediate rendering wells in these counties unusable for private consumption.

- Historically, clay settling areas have taken up approximately 40% of the landscape post-mining. Although there have been recent efforts to reduce the footprint of clay settling areas through consolidation techniques, the value of these lands for subsequent uses is not mentioned in Appendix F on the subject of economic analysis. The executive summary addresses economics but does not mention whether clay settling areas have reduced value as land post-mining. Can structures and other improvements be built on a CSA or is the land limited to certain uses, like agriculture? How long does that limitation persist? These items should be analyzed and addressed.

- Section ES.7.3 states that an annual decreased flow of the Peace River of 16 percent might be expected. The Peace River Manasota Regional Water Supply Authority is restricted from withdrawing water from the Peace River based on flow volumes. The AEIS should be revised to estimate how reductions in flow will affect withdrawals from the Peace River by the Authority. Annual averages are insufficiently detailed to estimate

impacts on potable water supplies. The same could be said for the environmental impacts to the downstream estuary. Reduction in flow caused by mining during heavy flows is much less important than during low flows. A more detailed analysis of the reductions in low flows should be included in the AEIS.

- Reductions in flow to Big Slough must be estimated separate from the cumulative effects to the Myakka River as is done in Section ES 7.3 because the City of North Port relies on Big Slough as a water supply and will be restricted in potable use based on flow. Again, annual averages are unsuitable to an assessment of withdrawal limitations.

- Section 3.3.2.4 describes high base flow in Payne Creek and higher peak flow and higher peak runoff. The AEIS should go into greater detail about these assertions. Do these statements suggest that increased flows come from reduced infiltration to the aquifers? Please describe flow changes in regard to overall water budget using the same rainfall input.

- Section 3.3.2.5 says that surface discharges occur during periods of high rainfall. This is not always true – it depends on how water is managed for mining purposes. The draft Horse Creek Stewardship Program annual report for 2010 shows large discharges during dry season because of water moved between watersheds for beneficiation. This information should be available from the Authority, Mosaic or Cardno Entrix. The assumption that discharges coincide with natural high flows is an example of a common practice that is not required in law, but perhaps should be for the benefit of the watershed.

- Section 3.3.2.6 describes the District "moving toward" EMPS to minimize dewatering impacts. If the Corps sees this management as appropriate to mining management they should consider having this as a recommendation since it is not required by law or rule at this time.

- Table 3-6 should be augmented because it is lacking in detail. A map should show where mining is happening. Is that much variation in evapotranspiration (ET) plausible? Explain the dramatic range of baseflows. Again, annual analysis is insufficiently detailed to meet the needs of the ecosystem of water supply needs.

- Table 38 lists the TMDLs within the CFPD. The AEIS should clarify that TMDLs are only established where data is available so this table is not a comprehensive analysis of impairments in the CFPD. Most of the data is available in populous areas but most of the CFPD is rural. NPDES data should be assessed for compliance with Numeric Nutrient Criteria. NPDES discharges should be assessed in regard to contributing load to any downstream water bodies that are impaired. NPDES discharges should be assessed for compliance with OFW anti-degradation criteria for all downstream waterbodies.

**Comments from Kelly Pluta, Environmental Specialist**

- Recommended Revisions to Chapter 2 - Alternatives 2.2.4.5. Sarasota County staff recommends the following language be inserted after the last paragraph on page 2-36:

  > Sarasota County has specific ordinances that effectively preclude phosphate mining or related operations within areas of Sarasota County. The Sarasota County Comprehensive Plan (Sarasota County Comprehensive Plan), the Sarasota County Zoning Regulations (Sarasota County Zoning Regulations) , and Sarasota County Code Chapter 54, Article X [Mining] (Sarasota County Mining Ordinance) include several sections that are relevant to the potential use of land areas for phosphate mining activities.

- Principle VI. B. 2.e) of the Guiding Principles for Evaluating Land Development Proposals in Native Habitat within Chapter 2 of the Sarasota County Comprehensive Plan (Sarasota County Comprehensive Plan) effectively prohibits mining in the Myakka River Watershed in Sarasota County.

- Section 4.5.3 of the County's Zoning Regulations (Sarasota County Zoning Regulations) states the following:

  > *a. The OUM District provides for mining activities and associated uses.*
  > *b. This district is used to implement the Comprehensive Plan within areas designated as Rural on the Future Land Use Map. It should not be applied outside the Rural area, or in areas of special environmental significance, including, but not limited to, the watersheds of Cow Pen Slough, the Myakka River, and the Braden River.*

- Section 54-289(1)d. of Sarasota County Code of Ordinances (Sarasota County Mining Ordinance) states the following:

  > *"No mining activities shall be undertaken on land unless it has been zoned OUM, Open Use Mining in accordance with the Sarasota County Zoning Ordinance (Appendix A to this Code."*

- No lands within the Sarasota County portion of the CFPD are zoned OUM.

Recommended Revisions to Figures:

- Due to the above-described Sarasota County Ordinance requirements effectively precluding phosphate mining within the areas of the Myakka River Watershed that lie

within the boundary of Sarasota County, and using the screening step described in Section 2.2.4.5, Step 3, staff requests that the following figures be revised to remove depiction of said areas as potential alternative mining areas.

- Sarasota County staff recommends that Figures 2-17 and 2-18 be revised to remove those portions of Alternative Polygon Areas L and K illustrated within Sarasota County.

Additional Recommended Revisions to the DRAFT AEIS:

- The subsets of the Rail Network and Federal-Aid Highway System used to create Figure 2-10 under-identifies many state and local roadways and railroad corridors that would not reasonably be mineable and therefore does not provide for a complete or accurate alternative analysis screening. In association with DRAFT AEIS Alternatives analysis screening, please revise Figure 2-10 to:

    - Discern existing railroad transportation routes from Major Highway corridor routes within the CFPD.
    - To illustrate all existing active railroad routes or segments thereof within the CFPD that would be considered not reasonably mineable.
    - To illustrate all existing railroad routes or segments within the CFPD that currently are or potentially could be utilized to transport mined materials.
    - To illustrate all existing federal, County and state roadways within the CFPD, that are currently utilized to transport mined materials.
    - To illustrate all existing active County and state roadways, as well as the DRAFT AEIS described associated 200 foot buffers, within the CFPD that would be considered not reasonably mineable.
    - To revise the acreage removed at the roadway/railroad screening step removing acreage of all roadway and active railroad corridors and associated buffers as these areas are not reasonably mineable.

- Chapter 6, Compliance With Environmental Requirements, lists major federal regulations and executive orders that may apply to the various alternatives within the CFPD. This listing should be expanded to indicate the state and local regulations that may be applicable to the various alternatives within the CFPD.

- In regards to Section 2.2.3.3., to allow for a more complete analysis of the AEIS Alternatives, please provide a refined graphic over a recent aerial photograph illustrating the proposed setback for all mining operations from the Peace River, locating the proposed greenway within and outside the proposed Desoto Mine, and locating the proposed beneficiation plant(s).

- To provide for a more complete alternatives analysis, we recommend illustrating on Figure 2-36, within the 24 AEIS Alternatives to be assessed in more detail, all lands that

are encumbered by conservation easements, lands that are not leased by phosphate companies, and lands that are not owned by phosphate companies.

- Page 4-29 indicates that approximately 30 percent of the land in the four proposed mine areas (4,691 acres) consists of land designated by the state for potential conservation. To allow for a more complete analysis of the AEIS Alternatives, please clarify whether these areas are wetland, upland or both and provide the approximated acreages. Please also clarify or approximate the wetland and upland percentage(s) of these lands that would be placed under conservation easements post-mining and post-reclamation.

- To allow adequate evaluation of Alternatives 2 through 5, please revise Table 4-6 to define the term "affected". In addition, please clarify if the acres of wetlands proposed to be affected constitute only ACOE jurisdictional wetlands or all wetlands jurisdictional to federal and state agencies. In addition, please revise Table 4-8 to indicate clarify or define the composition of "other wetlands".

- The narrative on Page 4-32 indicates that mining associated with the DeSoto Mine is being excluded from the 100 year floodplain areas of Horse Creek and its tributaries. To allow a compete evaluation of the extent of impacts to wetlands, forested riparian areas, and 100 year floodplain areas within the four currently proposed mines, the future mines, and the AEIS Alternative polygons illustrated on Figure 2-36, please provide a graphic enlarging Figure 2-36 and overlaying the 100 year floodplain within Myakka and Peace River watersheds. In addition, in association with the 24 AEIS Alternatives to be assessed in more detail, provide a scenario table estimating and assessing the acres and types of wetlands that could be avoided by excluding mining within the 100 year floodplains of the Myakka and Peace River watersheds as applicable to the currently proposed mines, the potential future mines, and the alternative polygons illustrated in Figure 2-36.

- In narratives contained in the Draft AEIS, the qualities of wetlands are vaguely described as low, moderate, and high. Page 4-158 indicates that wetlands possessing UMAM or WRAP scores of 0.7 or higher are considered to be of high quality. To allow adequate evaluation of the AEIS Alternatives in Chapter 4, please revise the AEIS to define moderate and low quality wetlands in terms of UMAM and WRAP numerical scoring to allow AEIS Alternative analysis and wetland quality evaluation in uniform scoring recognized by federal, state, and local wetland permitting agencies.

- The Florida Department of Environmental Protection documented in its Peace River Cumulative Impact Study that past mining activities have resulted in the net loss of wetlands and streams. Given this finding and given that future mining should not result in a net loss of wetlands and streams in the Peace River area, the AEIS Alternatives analysis should be integrated into the permitting process for the current and proposed mines to ensure that all mining conducted following the issuance of the Final AEIS results in no

net loss of wetlands or streams within the watershed areas contained within the CFPD, or at minimum within the Peace River Watershed portions contained within the CFPD.

- Page 5-24 of the DRAFT AEIS indicates that habitats that are typically avoided by the phosphate mining companies and are preserved include riverine systems and associated floodplains, large herbaceous wetlands, mature upland forests, and xeric upland habitats. Given that it is typical that these habitats are routinely avoided by the phosphate mining companies, all applicable tables and graphics should be revised to illustrate these habitat areas within the currently proposed mines, the potential future mine areas, and the alternative polygons to identify these habitat areas as potential no-mine areas, or industry-committed no-mine areas. In addition appropriate setbacks or buffers outside these areas should also be described and/or illustrated.

- Regarding the preservation of post-mining areas, please revise page 5-24 to clarify if all wetland re-creation, wetland mitigation, upland re-creation areas, and listed species recipient sites upon formerly mined lands are preserved in perpetuity under conservation easements or other preservation mechanisms.

- Section 4.10 describes the application of mining exclusion zones around major streams, river corridors, perennial and intermittent streams, and special ecological habitats (whether upland or wetland). It is recommended that ACOE perform further analysis and establish criteria for the application of buffers of 1,500, 3000, and 6000 feet based on site-specific resources, habitats, and mine configurations within the watershed(s). Staff supports the premise described that greater buffer widths should be required in headwater systems. Page 4-154 indicates that developing buffers tailored to specific location offers challenges in consistency and monitoring over the life of a project. However, because floodplains, wildlife corridors, and environmental features are non-linear, staff supports variable width buffers where additional resource and habitat protection could be achieved when compared to a linear standard distance width from the resource. Where variable width buffers are not appropriate, it is recommended that the DRAFT AEIS be revised to establish criteria sets default minimum width buffers outside the 100 year floodplain as no mine areas to maximize floodplain protection, water quality, wetland impact avoidance, habitats containing listed species.

- Section 4.10 describes the effects of applying geographical exclusions and buffers to provide protection to ecological resources, streams, and the Peace River "Greenway," however no conclusions or intended actions were described. The DRAFT AEIS needs to be revised to provide conclusions of the 1,500, 3,000, and 6,000 feet buffer analysis and to provide recommendations of the most appropriate buffer width(s) to require in appropriate areas of the four proposed mines. To allow a more thorough comparative analysis of the 24 AEIS Alternatives, the DRAFT AEIS needs to be revised to apply the proposed geographical exclusions and buffers that could be applied over the currently proposed mines, future mines and the alternative polygons.

- The DRAFT AEIS indicates the following for the four proposed mines:

    - *Current plans for the DeSoto Mine call for avoiding the 100 year flood plain for Horse Creek and its tributaries and the forested riparian habitat of a Buzzards Roost tributary south of SR70.*

    - *The current plan for the Ona Mine proposes to avoid the forested riparian habitat of the West Fork of Horse Creek, the 100 year flood plain of Horse Creek, 749 acres of the forested riparian habitat of Brushy Creek, and 110 acres of a large headwater forested wetland.*

    - *The current mine plan for the Wingate East Mine includes avoidance of the 25 year floodplains of the West Fork Horse Creek and Myakka River.*

    - *The current plans for the South Pasture Mine proposes that nearly all of the intact natural stream segments associated with Brushy, Lettis, and Troublesome Creeks are proposed for protection within the No-Mine area; however impacts to a small set of more-or-less natural stream segments will occur. Additionally, 96% of the bay swamp acreage on the property will be preserved in perpetuity.*

  Given that valuable functions are provided by the floodplains alone, as well as the wetlands, uplands, listed species, that frequently are present in floodplain areas, it is recommended that the DRAFT AEIS be revised to illustrate as an overlay the 100 year floodplain for the currently proposed mines, future mines, the South Hardee County South Segment, and each of the AEIS Alternative polygons. It is recommended that, with the exception of approved temporary crossings, all mining be excluded from areas ofthe 100 year floodplain within the CFPD. Further, an analysis should be performed to assess the protection of wetlands, water quality, listed species etc. achievable via designating areas of the 100 year floodplain as no-mine areas in comparison to the protection achievable by designating the potential 1,500, 3,000, and 6,000 foot buffers described in Chapter 4 as no-mine areas.

- As indicated by Sarasota County in the Scoping Process, staff re-asserts that the US Army Corps of Engineers should consider in the AEIS the connected action with phosphogypsum stacks and their management. The DRAFT AEIS does not consider the past disposition of phosphogypsum or continued phosphogypsum stacking resulting from the proposed and future mines as major cumulative effect of mining. While the EPA has banned the use of phosphogypsum in agricultural or construction-related activities, the scope of the ban is not elaborated in the DRAFT AEIS. The DRAFT AEIS should be revised to verify if the EPA has outright banned or conditionally banned returning phosphogypsum back into mined cuts or the blending of phosphogypsum with mined sands and/or clays and then returning blended phosphogypsum into mined cuts. Staff research finds that the EPA ban is based on an assumption that the mined land to which

phosphogypsum is returned would one day be developed into residential or commercial uses.

- The EPA restrictions may not preclude that phosphogypsum could be returned in blended or non-blended form to mined lands if the reclaimed lands were restricted in perpetuity from residential or commercial development. Possible appropriate uses for or development upon lands reclaimed with phosphogypsum would be parks, cemeteries, mitigation banks, or conservation lands. Omitting from the DRAFT AEIS the environmental aspects of current and continued phosphogypsum stacking appears would result in a bias against the No Action Alternative versus the other alternatives listed in ES 5. of the DRAFT AEIS.

**Comments from Andrea Lipstein, Professional Wetland Scientist**

- The Draft AEIS did not include an analysis of the historic mining impacts from the 1940's to the 1970's. A greater analysis of the pre-1975 mining impacts, similar to the one prepared for the Peace River (PBS&J, 2007), should had been conducted for all watersheds in the CFPD. Particularly, the hydrology and wetland impacts, so a clear and realistic forecast of the total cumulative impacts to the region of the proposed mines, in relation to all past mining. Also, a no net loss of wetland analysis of the CFPD Area from 1940 to the most current data should be included.

  As a reference, the analysis of historic mining impacts for the Peace River watershed is found in: PBS&J, 2007, *Final Report for the Peace River Cumulative Impact Study,* Prepared for Florida Department of Environmental Protection Bureau of Mine Reclamation and the Southwest Florida Water Management District.

Chapter 1 – Project Purpose and Need

- 1-1 As per 40 CFR 1501.7, determines the scope and the significant issues to be analyzed in depth in the AEIS. Page 1-16 states the Purpose and Need of the alternative analysis was based on the Draft AEIS.

  The USGS Mineral Commodity Summaries for 2010, 2011 and 2012 and the article by Stephen Jasinki on Phosphate Rock (2010) Minerals Yearbook, Phosphate Rock [Advanced Release], finds that Mosaic has/does import phosphate rock. The Draft AEIS should be revised to report quantities of such and provide a cost benefit analysis of the environmental impacts of importation versus generation by mining in the CFPD. In addition, the Draft AEIS should expand the alternatives to include as an alternative the processing of imported phosphate rock at existing permitted production facilities.

An analysis of phosphate rock is found in the following documents: Phosphate Rock – 2010 (Advanced Release). 56.1 Phosphate Rock by Stephen M Jasinki; U.S. Geological Survey, 2012, Mineral commodity summaries 2012: U.S. Geological Survey, 198 p.; U.S. Geological Survey, 2011, Mineral commodity summaries 2011: U.S. Geological Survey, 198 p.; U.S. Geological Survey, 2010, Mineral commodity summaries 2010: U.S. Geological Survey, 193 p.

Chapter 2 – Alternatives

- 2-1 Pages 2-32 and 2-33 describe that for a mine to be a stand-alone operation and economically productive, it requires a minimum of 9,000 acres, working 300 acres per year for 30 years. Analysis of the economic and public value of phosphate rock was conducted; however no analysis was conducted for the economic and public value of the wetland and stream habitats in the Draft AEIS. Wetland values vary from the type of wetland to the functions provided. Among them are: water storage, water quality, wildlife, and fish habitat, and their recreational value to the public. An independent economic evaluation should be included in the AEIS to compare the economic and public value for wetlands, streams, floodplain, and water quality and quantify them against the economic value of mining of those wetlands.

  An analysis of economic and public value of wetland and stream habitats is found in the following publications: Iovanna, R., & Griffiths, C. (2006). "Clean Water, Ecological Benefits, and Benefits Transfer: A Work in Progress at the U.S. EPA" *Ecological Economics*, 60(20):473-482; Lambert, A. (2003). "Economic Valuation of Wetlands: an Important Component of Wetland Management Strategies at the River Basin Scale" www.conservationfinance.org/guide/guide/images/18_lambe.pdf; Mitsch, J. W., & Gosselink, J.G. (2000) "The value of wetlands: importance of scale and landscaping setting" *Ecological Economics*, 35(1): 25-33; Woodward R.T., & Wui, Y.S. (2001) "The economic value of wetland services: a meta-analysis" *Ecological Economics*, 37(2):257-270.

Chapter 4 – Environmental Consequences

- 4-1 The decision to utilize the IWHRS and CLIP disregarded other parameters such as ground water, water quality, topography and soil maps and were based on pre-assumptions. To provide a more thorough analysis and corroborate the information gathered by the above tools, it is recommended that areas mapped via IWHRS or CLIP be ground-truthed by sampling random sites throughout the CFPD and in each watershed.

- 4-2 Please clarify the discrepancy between Table 4-13 and Table 4-14 on the acres of Wetland /Hydric Soils Acreage versus Total Wetlands (Page 4-54).

Chapter 5 – Mitigation

- 5-1 There are no guidelines described to address the criteria for avoidance, minimization or the justification for impacts to wetlands and streams. This chapter should be expanded to include the above steps. Please clarify the specific ACOE permitting wetland & stream avoidance and minimization requirements that are being applied with all phosphate mine application.

  As a reference, The Florida Department of Environmental Protection and the Water Management District have guidelines for the avoidance and/or minimization of wetland impacts proposed under a phosphate mine application. These are found in the Basis of Review (B.O.R.) in the Environmental Resource Permit (ERP). Here, a reviewer can follow the B.O.R. guidelines and assess if an impact can be avoided, minimized and if not able to avoid or minimize, follow the ERP criteria for proper mitigation.

- 5-2 Describe the methodology for Modified WRAP used in the Mining Industry and how this method compares with WRAP and UMAM used by the federal, state and local permitting agencies.

- 5-3 While Section 5.4.1 indicates that a bay swamp is trending toward success as determined by Hillsborough County Environmental Protection Commission, it does not describe the wetland success status by ACOE and FDEP.

- 5-4 The chapter should clarify the relation between the Clean Water Act, Section 404 and the State Rule 62-330 F.A.C. It should clarify the necessity for including state regulations in a federal review. A sequencing/process was not included in this section that communicates federal regulations required for State permitting guarantee of water quality protection when a mining permit application is reviewed by ACOE. The Draft AEIS needs to be revised to describe this required permitting relationship.

## Comments from H. Cliff Harrison, P.G., Senior Hydrogeologist

Groundwater Withdrawal Impacts Assessment – General Comments:

ES.4 Primary Issues of Concern

- (2) The effects of phosphate mining on groundwater quality and levels, including potential cumulative effects of mining on regional aquifers, especially associated with use of the Floridan aquifer for industrial supply.

- *Comments:*
  - Both the cumulative (all combined mining) and the incremental (individual new mines) effects of mining on regional aquifers should be evaluated.

- Withdrawal of groundwater for industrial supply is only part of the equation – also need to evaluate the potential reduction/loss of recharge to the aquifer.

ES.5 Alternatives Evaluated in the Draft AEIS

- Each alternative presented is only a Yes/No alternative on proceeding with the individual mine projects presented – the individual projects need to be evaluated based on various scenarios of possible reclamation plans for each mine.

- No discussion regarding reclamation options was included in Alternatives – by relegating the consideration of reclamation to several sections of the AEIS rather than as a single topic, the opportunity to compare the various Alternatives based on their various reclamation options is lost.

ES.6.2 Water Resources
ES.6.2.1 Groundwater

- Surficial Aquifer System Effects – no mention is given to an evaluation of long-term effects to the surficial aquifer – the only approach to preserving water levels in the surficial aquifer that is discussed is the use of perimeter recharge ditches, which only function during mining-associated dewatering but do not address post-mining impacts.

- Post-mining surficial aquifer characteristics are greatly different from pre-mining conditions – some evaluation of the change in the hydrology of the surficial aquifer is warranted.

- Floridan Aquifer Effects - the modeling approach is limited in its scope – only the Alternative including the two new mines was evaluated using groundwater modeling; the potential effects of the other Alternatives should be modeled on an individual basis as well.

- Completely ignored evaluation of impacts to intermediate aquifer system.

- The only scenarios that were evaluated were the new Floridan Aquifer System (FAS) withdrawals associated with the two new mines – the assumption is made that resuming use of the existing supply wells at the Fort Green Mine (un-used since 2006) would represent no new use, even though the conditions of 2010 are used as a baseline in the modeling.

- No justification for not evaluating the other Alternatives – simply stated that these results will be extrapolated to other mines.

- The figures depicting groundwater withdrawal impact predictions that are presented in the Executive Summary show large areas of predicted Floridan Aquifer drawdowns exceeding one foot of impact (the typical regulatory limit on impacts beyond which additional extensive impact analyses are required).

- Withdrawal impact modeling results should also be presented showing predicted drawdowns in surficial aquifer (wetlands, lakes, streams, and other water bodies overlying area of Floridan Aquifer drawdown impacts).

ES.6.6 Water Quality

- Greatest potential effects to groundwater quality are within the shallow surficial aquifer system.

- Claim is made that groundwater conditions in water table around mines generally meets all applicable groundwater standards – however, this claim is directly contradicted by published research data (Lewelling, B.R. and Wylie, R.W., United States Geological Survey, 1993).

ES.7 Cumulative Impacts

ES.7.2 Floridan Aquifer Responses to Phosphate Mining Water Supply Allocations

- Case is made that Floridan Aquifer levels will rise due to reduced mining and agricultural operations in other areas of CFPD over the course of the proposed mining period – this broad approach only looks at overall water budget, not at the localized drawdowns that will be caused by the individual mines proposed in the Alternatives.

Chapter 2 – Alternatives

- No consideration given to Functional Alternatives involving differing reclamation methods.

- Only reviewed effects of Manatee County's mining ordinance – not Sarasota County's.

- In ranking/screening of polygons for Alternatives Assessment, a review of sinkhole-prone areas would be beneficial.

- In the discussion of the wet dredging alternative, its use at Wingate Mine due to the depth of the matrix (90 ft below land surface) is reviewed and discarded due to technical limitations – however, the DeSoto Mine quite a bit further south than Wingate, which would suggest that the matrix may be even deeper at DeSoto Mine thus possibly making wet dredging more economical and less environmentally damaging than dewatering.

Chapter 3 - Affected Environment

3.1.3 Beneficiation

- Acknowledges impacts to the Floridan Aquifer system as a result of groundwater withdrawals for industrial use, but does not evaluate any associated surficial aquifer drawdowns that may result from lowering of water levels in the Floridan Aquifer.

3.1.4 Waste Management and Mine Reclamation

- Acknowledges potential effects of clay settling area and sand tailings reclamation on recharge rages to the Surficial aquifer system and to runoff/streamflow.

3.3.2.2 Groundwater Systems

- Intermediate Aquifer System/Intermediate Confining Unit – needs further discussion regarding up-dip areas of groundwater recharge and down-dip areas of public water supply groundwater withdrawals.

- Indicates that karst solution cavities are restricted primarily to Polk County and Upper Peace River Basin in Hardee County – need to also include locations of sinkhole activity in Manatee County.

3.3.2.5 Effects of Phosphate Mine Operations on Watershed Flows

- AEIS simplifies conclusions of cited studies – need to take into account the relative balance between rainfall, surface runoff, baseflow to streams through discharge from surficial aquifer system, and changes in recharge to Intermediate and Floridan aquifer systems.

- See detailed review of conclusions from cited literature, below.

3.3.2.7 Potential Effects of Phosphate Mining on Watershed Surfice Water Budgets

- Detailed water budgets presented in report need to be incorporated into groundwater impact modeling efforts.

3.3.7.6 Regional Water Supply

- No acknowledgement of Sarasota County's reliance on the intermediate aquifer system as a water supply.

- Need to incorporate an evaluation of the recharge area for the intermediate aquifer into the study.

Chapter 4 - Environmental Consequences

4.2.2 Groundwater Resource Evaluation Methods

- Only addresses Floridan Aquifer withdrawals – does not examine changes in groundwater recharge rates.

- Used analyses from only two prospective mining projects' use of Floridan Aquifer groundwater withdrawals as water source as predictive proxy for other proposed mine projects of similar spatial and temporal scale – this disregards significant differences in hydrogeology of the various proposed mine sites – need more site-specific evaluation.

- Withdrawal impact evaluation incorporates reduction of groundwater withdrawals for mining use in formerly mined areas with proposed new withdrawals, masking the incremental (individual) impacts of the proposed mining alternatives.

- Modeling assumptions rely heavily on assumed reductions in agricultural withdrawals – not an evaluation solely of mining impacts as is done for WUP modeling analyses.

- By incorporating potential reductions by other users, the actual impacts of the mining withdrawals are reduced or minimized in the simulation.

4.2.3 Surface Water Resource Evaluation Methods

- Needs to be integrated into groundwater evaluation – the two are inseparable and are interrelated as increased surface water runoff = reduced groundwater recharge.

4.4 Groundwater Resources

- Simulation results need to include impacts to surficial and intermediate aquifer systems as well as Floridan Aquifer.

- Results presented showing individual incremental impacts for each proposed mining Alternative, not just for the overall cumulative impacts – individual mines show drawdowns in the Floridan Aquifer of up to several feet – corresponding impacts to surficial and intermediate systems need to be shown as well.

- Model parameters do not appear to have been revised to reflect reduced recharge due to increased runoff and/or baseflow as a result of mining and reclamation activities.

- No integration of surface water impacts and groundwater withdrawals in modeling.

4.11.1 Geology and Hydrogeology

- Comments focus on water table dewatering impacts – does not address permanent changes to groundwater recharge capacity following mine reclamation.

4.11.11 Reclamation

- No discussion of effects of reclamation – AEIS report simply states that reclamation falls under FDEP – there should be some discussion of how choice of reclamation method(s) affects future groundwater recharge and baseflow to streams.

Appendix D – Groundwater Modeling

- Modeling is based on cumulative effects only – doesn't address individual localized drawdown impacts.
- By combining effects of new withdrawals with reductions due to mine closings, the localized effects are masked.
- Modeling should show both components separately.
- Incremental impacts are not assessed – SWFWMD reviews of groundwater withdrawal impacts look at both incremental and cumulative effects.
- Each individual mine should be modeled in addition to cumulative scenario.

References reviewed for background on the effects of phosphate mining on hydrology:

Garlanger, John E., Ardaman & Associates, Inc., 2002. Effects of Phosphate Mining and Other Land Uses on Peace River Flows. *for the* Florida Phosphate Council, Tallahassee, Florida.

- Mining has reduced groundwater withdrawals through increased recycling but concerns remain over potential impact to flow of Peace River.
- Recharge to intermediate and Floridan aquifers >10"/year in northern Peace River basin, <1"/year in middle and southern portions.
- Establishes relationship between streamflow, rainfall, and recharge:
    - Streamflow = Rainfall – (Evapotranspiration + Net Deep Recharge + ΔStorage)
- Argues that long-term decline in streamflow at Arcadia can be explained by long-term decline in rainfall
- Concludes that mining does not increase recharge to intermediate and Floridan aquifers because matrix layers are located above the bed clay and therefore removal of matrix does not reduce confinement.
- Presents evidence to suggest that baseflow to Peace River is greater in mined basins than in unmined basins.
- States that mining does not increase surface storage because reclaimed areas actually increase topography rather than leaving holes in the ground.

- Calculates that reclaimed areas including clay settling areas and cast overburden provide recharge to aquifer by dewatering/consolidation of clay providing downward recharge of >1"/year.
- Comes to contradictory conclusion that: A) recharge is not reduced after mining; B) increase in evapotranspiration may have reduced streamflow but this is offset by increased runoff.
    - If increased runoff offsets streamflow losses due to increased ET, by his equation recharge must decrease:
    - Streamflow {same} = Rainfall {same} – (Evapotranspiration {increase} + Net Deep Recharge + ΔStorage {same})

Lewelling, B.R. and Wylie, R.W., United States Geological Survey, 1993. Hydrology and Water Quality of Unmined and Reclaimed Basins in Phosphate-Mining Areas, West-Central Florida.

- Compared hydrologic characteristics and water quality of three unmined basins to those of five mined basins which used four unique reclamation methods.
- Found that hydrologic effects of reclamation vary with the type of fill material used in reclamation.
- Peak runoff rates from mined/reclaimed basins were generally higher during intense, short-duration thunderstorms than the rates from unmined basins.
- Peak runoff rates during low-intensity, long-duration frontal storms were similar at all basins.
- Runoff responds more slowly to rainfall in reclaimed basins than in unmined basins due to undeveloped drainage systems in the reclaimed basins.
- In reclaimed basins backfilled with clay, there was no sustained baseflow to streams and runoff rates were relatively small because of surface storage in depressions in the land surface.
    - Depth to water table in the surficial aquifer in these basins was much deeper than in unmined basins and in reclaimed basins backfilled with overburden
    - Recharge from surficial aquifer into underlying intermediate and Florida aquifer systems was greatly reduced.
- In reclaimed basins backfilled with overburden, streamflows were characterized by relatively low peak runoff rates but relatively high base flows.
    - Fluctuations in water levels and depths to the water table in these reclaimed basins were similar to those in unmined basins.
    - Recharge from surficial aquifer into underlying intermediate and Floridan aquifer systems was greater than in reclaimed basins backfilled with clay.
- Water quality sampling indicated higher concentrations of most constituents in groundwater from reclaimed basins than in unmined basins.
- Dissolved solids, iron, sulfate, manganese, and lead exceeded regulatory standards in mined basins.
- Only iron and gross-alpha exceeded standards in unmined basins.

- Hydrologic characteristics and surface- and groundwater quality of basins which were reclaimed with overburden-capped sand tailings and contoured overburden methods were similar to those of unmined basins.
- Hydrologic characteristics and surface- and groundwater quality of basins which were reclaimed with clay-settling or sand-clay settling methods differed from umined basins
    - Reduced runoff due to surface storage and increased Uranium-234 activity in the more recently-reclaimed clay-settling basin.
    - More rapid runoff response to rainfall, reduced flow, greater depths to water table, and more gradual water-table response to recharge in the more established clay-settling basin.

Reigner, Walter R., P.E., and Winkler, Cornelis, P.G., BCI Engineers & Scientists, Inc., 2001. Reclaimed Phosphate Clay Settling Area Investigation: Hydrologic Model Calibration and Ultimate Clay Elevation Prediction. *for the* Florida Institute of Phosphate Research.

- Examined concern that clay settling areas (CSAs) could result in greater runoff and increased flooding potential.
- Found that discharge from CSAs is less than anticipated due to storage in depressions and surface dessication cracks.
- Depressional storage increases with time due to further clay consolidation and surface subsidence.
- Concerns now shifted from flood prevention to providing adequate surface discharge and groundwater recharge to sustain stream flows (especially base flows).
- This study focuses on predictive modeling of clay consolidation and resulting topographic changes, and in turn, their effects on modeling and analysis of surface water hydrology.
- Concluded that CSAs discharge less surface water than previously expected.
- Discounts any significant release of water in a downward direction (recharge) due to high solids content and impermeable layer of clay at bottom of CSAs.
- Documented many important variables that make it difficult for hydrologic models to accurately and consistently predict the hydrology of CSAs.
- Result is that detention and retention is underestimated, peak & total discharge is overestimated.
- In an attempt to reduce peak discharges, the designed systems often do not maintain the volume and character of long-term discharge that occurred prior to mining.
- Because of continued consolidation and associate topographic lowering, storage in CSAs increases over time, reducing volume of water discharged until equilibrium is reached at about 30 years after reclamation.
- Immediately following reclamation, downstream protection from flooding impacts is needed.
- Ultimate CSA conditions need to be engineered to sustain base flow to downstream receiving waters.

Schreuder, Peter J., P.G., Earls, Julie K., and Dumeyer, John M., P.E., P.G., Schreuder, Inc., 2006. Impact of Phosphate Mining on Streamflow. *for the* Florida Institute of Phosphate Research.

- Compared land use changes to resulting streamflow changes in two drainage basins of the Peace River watershed – one mined (Payne Creek drainage basin), one unmined (Joshua Creek drainage basin).
- Concluded that mined basins increase overall streamflow.
- Flood-flows from mined basins are reduced by mining operations while median and base-flows are significantly increased.
- Rainfall was less in mined basin, but streamflow was higher.
- Streamflow from mined basins is consistently higher than in basins where irrigated agriculture dominates.

**Comments from David M. Pearce, Assistant County Attorney**

- The Draft AEIS does not properly take into account its concerns about cumulative actions. Cumulative actions are defined as those actions "which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." 40 C.F.R. § 1508.25(a)(2) (2012). Although this regulation requires that "cumulative actions" be considered together in a single EIS, and "cumulative actions" consist only of "proposed actions," this does not negate the requirement of 40 C.F.R. § 1508.7 that the Corps consider cumulative impacts of the proposed actions which supplement or aggravate the impacts of past, present, and reasonably foreseeable actions. *Oregon Natural Resources Council v. Marsh*, 832 F.2d 1489, 1497-98 (9th Cir. 1987), *rev'd on other grounds*, 490 U.S. 360 (1989).

- Section 4.12.1.4 of the Draft AEIS does not take into proper account all reasonably foreseeable actions. Rather, it only considers the cumulative impacts of the proposed actions, i.e., the four mine applications (DeSoto, Ona, South Pasture Extension, and Wingate East) plus two foreseeable future mine projects (Pine Level and Pioneer).

- Some of the problems in distinguishing the difference between cumulative actions and cumulative impacts stems from a United States Supreme Court case that was issued three years before the promulgation of the CEQ regulations. In *Kleppe v. Sierra Club*, 427 U.S. 390 (1976), several environmental organizations sued the Department of the Interior for failing to prepare a regional EIS on coal mining related actions such as coal leases, mining plans, etc. *Id.* at 396. The Department of the Interior had already completed a programmatic EIS on the entire proposed national coal-leasing program and several site-specific EISs. *Id.* at 395.

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- The *Kleppe* court held that section 102(2)(C) of NEPA did not require a regional EIS in the absence of a *proposal for major federal action* of regional scope. *Id.* at 399. In the absence of such a proposal for major federal action, the Court reasoned that "there would be no factual predicate for the production of an environmental impact statement of the type envisioned by NEPA." *Id.* at 402. Further, the Court also reasoned that it "has not authority to . . . determine a point during the germination process of a potential proposal at which an impact statement should be prepared." *Id.* at 406. A final EIS is required only at the time that an agency makes a proposal for major federal action. *Id.*

- The Court recognized that "when several proposals . . . that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental impacts must be considered together." *Id.* at 410. However, the Court also stated that the determination of whether cumulative impacts exist so as to require a comprehensive impact statement is a "task assigned to the special competency of the appropriate agency." *Id.* at 413-14. Thus, the Court gave with one hand, while taking away with the other. The decision of whether to conduct a programmatic EIS or regional EIS is largely left to the discretion of the agency. Therefore, a party challenging an agency's refusal to prepare a comprehensive EIS (either regional or programmatic) must show that the agency acted arbitrarily in making that determination. *Id.* at 412.

- Some have wrongly interpreted *Kleppe* to mean that only the cumulative impacts of concrete proposals be considered together in one EIS. Again, the CEQ's regulations were promulgated three years after the Supreme Court's decision in *Kleppe*. They require a federal agency to analyze the cumulative impacts of a proposed project in conjunction with any other related actions. Specifically, the NEPA regulations define "cumulative impact" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, *and reasonably foreseeable future actions....*" 40 C.F.R. § 1508.7 (2010) (emphasis added).

- The courts have struggled with a definitive approach as to how to apply the cumulative action and cumulative impact requirements in the CEQ regulations after *Kleppe*. *See, generally,* Thatcher, Terence L., *Understanding Interdependence in the Natural Environment: Some Thoughts on Cumulative Impact Assessment Under the National Environmental Policy Act*, 20 Envtl. L. 611 (1990). In the instant case, the Corps should reject any arguments that the only reasonably forseeable future actions are those in which the industry actually has an application pending with the Corps, and that those areas should not be part of any cumulative impact analysis done by the Corps. These arguments are an incorrect interpretation of the regulations and *Kleppe*. Accordingly, the Corps should consider both the cumulative actions of any proposed actions, and the cumulative impacts from projects for are reasonably foreseeable, even when there are no mining applications pending.

- The Draft AEIS has already identified Alternatives where mining might take place. Thus, the Final AEIS should determine the cumulative impact associated with the four

mines (DeSoto, Ona, South Pasture Extension, and Wingate East) plus the two foreseeable future mine projects (Pine Level and Pioneer), and the Alternatives.

- If cumulative impacts are discovered, then the EIS must include a discussion of measures to mitigate adverse environmental impacts of the proposed action. 40 C.F.R. § 1502.16(h) (2012). The mere listing of mitigation measures is insufficient to satisfy the NEPA requirements. *Northwest Indian Cemetery Protective Ass'n v. Peterson,* 795 F.2d 688, 697 (9th Cir.1986). The EIS must analyze the mitigation measures in detail and explain the effectiveness of the measures. *See id.*

## CONCLUSION

Thank you for the opportunity to provide these comments. Sarasota County looks forward to working with the Corps in producing a final Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District.

Sincerely,

Christine Robinson
Chair
Sarasota County Commission

cc: Sarasota County Commission
Randall H. Reid, County Administrator
Stephen E. DeMarsh, County Attorney
Bill Little, Deputy County Administrator
Theresa Connor, Executive Director, Environmental Services
David Pearce, Assistant County Attorney

# Sarasota County's Review Team Credentials

**Theresa A. Connor, P.E.,** is a registered engineer in the State of Florida. She has over 20 years of experience in dealing with water resource issues across the United States. She has worked for Sarasota County for over 12 years and currently serves as the Director of Environmental Utilities. She has a Masters of Environmental Engineering and B.S. in Civil Engineering from Iowa State Engineering. Ms. Connor was part of the engineering honor society (Tau Beta Pi) and Civil Engineering Honor Society. She has a Masters of Business Administration from Webster University. Ms. Connor has recently served as president of the Florida Stormwater Association and currently serves as president of the Sarasota County Science and Environment Council.

**John Ryan** is an Environmental Manager for Sarasota County where he has worked for 23 years. During that time he has been involved in a wide range of water quality issues from red tide to TMDLs. He has been involved in numerous collaborations including three national estuary programs and many other groups. Previous employment was as a chemist, including at Mote Marine Laboratory. Mr. Ryan has two Bachelor of Science degrees from Fort Lewis College, graduating magna cum laude in 1982.

**Kelly Pluta** is an Environmental Specialist with Sarasota County where he has worked for 26 years. During that time he has worked in the environmental regulatory program, primarily administering the County's Earthmoving Code. Mr. Pluta has a Bachelor of Science degree in Biology and Master of Arts degree in Public Health, both from the University of South Florida. In 2008, Mr. Pluta served as an expert witness in the Administrative Hearing for the South Fort Meade Mine.

**Andrea Lipstein** is a Professional Wetland Scientist with over 18 years of experience in the environmental field involving wetland resources and regulations. Ms. Lipstein has worked in both government and the private sector. This includes the Southwest Florida Water Management District, (SWFWMD); Biological Research Associates, currently known as Cardno ENTRIX and with Sarasota County since 2002, where she leads the compliance and monitoring efforts for the Conservation and Environmental Permitting department. In 2008, Ms. Lipstein served as an expert witness in the Administrative Hearing for the South Fort Meade Mine. Ms. Lipstein has a Bachelor of Science degree in Biology from the National Autonomous University of Mexico, Iztacala in 1989.

**Cliff Harrison** is a Florida-licensed Professional Geologist who has focused on the protection, management, and safe development of Florida's groundwater resources for over 25 years. Having received Bachelor of Science (1989) and Master of Science (1994) degrees in Geology from the University of South Florida, he has participated in and directed groundwater-related projects and studies in and around the Central Florida Phosphate District throughout his career. Mr. Harrison joined Sarasota County's Utilities Planning team in 2011 as the County's Senior Hydrogeologist.

**David M. Pearce** received a Bachelor of Arts degree in Political Science from the University of Florida in 1992, a Juris Doctor (with Honors) degree from the University of Florida in 1996, and a Master of Studies in Environmental Law (Cum Laude) degree from Vermont Law School in 1996. From 1997 to 2000, Mr. Pearce clerked for the Honorable Charles A. Davis, Jr. at the Tenth Judicial Circuit Court and Second District Court of Appeal of Florida. Between 2000 and 2005, Mr. Pearce worked at the law firm of Carey, O'Malley, Whitaker, & Manson, P.A., Tampa, Florida, where his work concentrated mostly on water use and wetlands permitting issues. Mr. Pearce is a member of the Florida Bar and the American Bar Association, and is admitted to practice in the United States District Court for the Middle District of Florida. Mr. Pearce joined the Office of the County Attorney in April 2005. He practices in the areas of environmental, land use, and administrative law.

**Rachel Herman** is a Project Scientist with Sarasota County Natural Resources. She received a Bachelor of Arts degree in Environmental Studies, with a concentration in Environmental Policy from American University in 2002. She is currently working toward a Master's of Science degree in Environmental Engineering Sciences with a concentration in Systems Ecology and Ecological Engineering from the University of Florida (December 2012). Since 2002, Ms. Herman has worked for Sarasota County. She has worked on projects ranging from coastal permitting, environmental policy development and implementation, habitat and wildlife protection and management, and serves as the county's legislative liaison for environmental issues. She uses an interdisciplinary approach to her work, balancing the needs of natural and human systems. Ms. Herman is a member of the Florida Association of Environmental Professionals.

Submission number 273

**From:** Diane Desenberg [mailto:travelerd@inbox.com]
**Sent:** Thursday, July 19, 2012 7:39 PM
**To:** teamaeis@phosphateaeis.org
**Subject:** A Public Comment on the Draft EIS Phosphate Mining in the CFPD

Please accept this comment on The Draft Areawide Environmental Impact Statement (Draft AEIS) for Phosphate Mining in the Central Florida Phosphate District (CFPD). Please do not include my email address in any public release of comments.

Diane Desenberg
Private Citizen,
Sarasota, Florida

**Background**

The environmental downsides of the phosphate industry have been well-enumerated over the years. The horrendous pollution, the intense water usage, groundwater contamination, radioactive discharge, and the inability to restore the land are all well-documented. No amount of whitewashing by the phosphate mining industry can cover this up. If you think they make a strong case and that miracle-solutions are available, then you have not reviewed the history of phosphate mining in Florida nor the more recent finding, this past spring, of two-headed fish in Idaho streams contaminated by selenium runoff from phosphate operations.

The Army Corps of Engineers has produced an environmental report – its "Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District." It is over 1,000 pages in length. The Sarasota Herald Tribune reports that "parts of the document even suggest that mining, which leaves behind waste-holding ponds, improves the environment by providing more forage areas for birds." Several years ago, the EPA said that what was needed was an analysis of the cumulative impact of current and future mines for the entire watershed, including downstream counties. Several years and over 1,000 pages later, the

Army Corps did not examine the cumulative impacts within the region as suggested by the EPA, but rather promoted some environmental benefits of mining activities.

When a government agency that has regulatory or review oversight over an industry comes to be dominated by that industry, rather than pursuing the overall public interest, that agency is said to be "captured". For example, the Minerals Management Service (MMS) was thoroughly captured by the oil industry that it was supposed to regulate, and thus did not perform proper due diligence to prevent the catastrophic 2010 BP oil spill in the Gulf of Mexico. The obvious question is - how was the Army Corps captured by the phosphate industry? According to the Sarasota Herald Tribune, the environmental report was developed by CH2M Hill and funded by Mosaic and CF Industries the same mining companies seeking permits from the Army Corps. The Army Corps may have put their name on the final document, but the financial trail points to a tainted document.

That means that it is up to outside reviewers to determine whether the suggested environmental mitigation is up to snuff. I believe that a look at the financial incentives and the business model of the phosphate industry is required in order to perform effective environmental analysis. And for that, I start with a look back at history. Phosphate companies want us to trust them and claim that they have the technology needed for proper mitigation and that they have learned from their mistakes. So, what were their mistakes?

In 2001, I read with dismay about the Piney Point phosphate operations in Manatee County. Due to financial problems, they could not pay their electric bill to keep pumps running, let regulators take over the plant, and then declared bankruptcy. The Florida Department of Environmental Protection (DEP) had paid over $200 million in clean-up costs for the treatment of acidic wastewater at this plant. The environmental costs were also high. The DEP dumped millions of gallons of waste into Bishop Harbor in late 2001. And after a subsequent failed clean-up attempt, the DEP started dumping in the Gulf of Mexico in 2003. At one point, the Florida Wildlife Federation suggested that the DEP get federal Superfund designation.

Then there's CF Industries (CFI). Between December 2004 and January 2005, inspectors from the Environmental Protection Agency (EPA) and the DEP discovered that CFI was treating, storing and disposing of hazardous wastes in the stack and associated ponds at its Plant City facility without a permit and failing to meet land disposal restrictions required by the Resource Conservation and Recovery Act (RCRA). In addition, they had not provided sufficient financial assurance for closure, long-term care, and liability for this facility. Their civil penalties for violating RCRA were $701,500 and they were required to put up $163.5 million in financial assurances toward the proper closure and long term care of the facility. Additionally, they were required to spend $12 million to reduce and properly manage hazardous waste at their facility.

And how about Mosaic. Prior to Hurricane Frances in 2004, both DEP and Hillsborough County directed Mosaic (then Cargill) to address problems with wastewater storage capacity and the stability of the stack at their Riverview fertilizer plant. Warning letters were issued after heavy rains lowered the wastewater storage capacity. Then came the winds and rains of Hurricane Frances, resulting in a breach, resulting in a 65 million gallon wastewater spill into Tampa Bay, resulting in a massive local fish kill. A settlement with the EPA and the DEP resulted in a $270,000 penalty for water quality violations. Subsequent investments of $30 million were required to reduce on-site wastewater. And more was required to improve the wastewater treatment itself.

Based on these case histories, the business model seems to be to take the minimum measures required by law to protect the environment. When possible, wait until enforcement commences to take these measures. Extract the phosphate and bring in profits, before reclamation begins. If possible, avoid reclamation activities by selling the operation, declaring bankruptcy, or some other legal avenue. I do not know whether these are representative of all the companies involved. Regardless, they are totally rational from a financial perspective. The less the environmental oversight and regulation, the greater the financial bonanza. And what a financial bonanza it must be. Here is some general data from Mosaic.

Mosaic Net Profit

2011: $2.51 billion
2010: $ .83 billion
2009: $2.35 billion

**Who Owns The Environmental Risk?**

To minimize the environmental impact and avoid potential ecological disasters associated with phosphate mining, the phosphate companies must own the environmental risk. If a company can go bankrupt and avoid reclamation efforts, they do not own the risk. If a company can hire subsidiaries to do their dirty work (such as BP did at the time of the Gulf oil spill in 2010), then the parent company does not own the environmental risk. When it costs millions to prevent a wastewater breach, but a wastewater breach only results in a $270,000 penalty, the company does not own the environmental risk. If all of the stakeholders of Mosaic lived within five miles of one of their mines, they might own the environmental risk. But this is not the case. Mosaic's CEO brought home $7.7 million in pay in 2011 and he lives in Minnesota, no where near these Florida facilities. Requiring financial assurance is a big step in the right direction. But consider agency capture. If the Army Corps of Engineers signs off saying that the environmental impact is not so bad, then they will not require much in the way of assurance. In order for a company to own the environmental risk, the incentives must be very large and very real.

Consider the difference in a company's financial calculations, if a permit to mine a new area were based on the environmental reclamation of the area currently being mined. If there were insufficient reclamation, no new mining would be permitted. Or, what if all profit had to be reinvested in a mining facility, until the facility had been returned to an appropriate environmental state. Only after reclamation would a company be allowed to realize a net profit. I don't know the best, most-enforceable approach. But, I don't see much hope in the environmental impact review process, unless mining companies own the final results. And in the current environment, they do not.

From the Sarasota Herald Tribune, "The study managed by the U.S. Army Corps of Engineers concludes that the environmental damage from strip mining more than 55,000 additional acres, including 12,000 acres of wetlands and 86 miles of streams, will be insignificant." Let's go with that. If a year from the onset of mining (or perhaps a month), the damage is insignificant, let the phosphate companies keep on mining and keep their profits. If not, they should be required to fix the damage, until it really is insignificant. Only then would they be allowed to continue mining and profit from their enterprise. Here's the bottom line. If a company wants to mine for phosphate, they must own the environmental review and its consequences or lose their permit to mine. Reassess frequently. In such a context, it would behoove a company to eschew the fantasy of insignificant phosphate mining damage in favor of a realistic impact assessment and mitigation plan.

What is missing from this report is a mechanism for tying the proposed impacts to the actual impacts in order to hold the mining companies accountable. Please include such a mechanism.

Submission Tracking

**Submission Number:** 000000274

**Received:** 07/22/2012 06:32:00 PM

**Organization:** Sierra Club, Patsy Rains

**Commenter Type:** Private Citizen

**Classification:** Non-substantive

**Category:** Unspecified

**Submitted As:** CW Web Form

**Form Letter Category:**

**Form Letter Master:**

**Remarks:**

Zoom

<([#1 [17][4]Chapter 4 - Environmental Consequences
It does not take a Rhodes Scholar to know this is horrible for the environment. OK so it creates jobs for a short period of time. We know it is impossible to replenish the earth to its original self once this Phosphate Mining takes place. You must stop this horrible process now. While it may be making a lot of people wealthy (what is new) raping this wonderful planet is not worth what a few people are getting monenatrily from this process. Thank you for giving me this opportunity. Please do not go forward with this Phosphate Mining.
#1])>

**Primary Commenter:**

**Commenter ID:** 52507

**Hide Submitter:**

**Commenter Type:** Private Citizen

**Name Prefix:**

**First Name:** Patsy

**Last Name:** Rains

**Name Suffix:**

**Title:** Retired

**Organization:** Sierra Club

**Division:** Not Applicable

**Address Line 1:** 885 32nd Street

**Address Line 2:**

**City:** Sarasota

**State/Province:** Florida

**Postal Code:** 34234

**Country:**

**Phone:** 941-351-3739

**Fax:**

**Email:** patsyfla1@verizon.net

**Number of Additional Commenters:** 0

Delete Commenter

Submission number 274

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000275 |
| **Received:** | 07/23/2012 01:44:56 PM |
| **Organization:** | Helen King |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Substantive |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

General
<([#1 [16][48]This AEIS, which will determine how mining will occur for over 120,000 acres over the next 50+ years, appears to have been written,studied, and compiled hastily. It is essential that all NEPA rules are followed to their fullest extent, and that the best avoidance techniques are used for the ARNI waters.
#1])>

<([#2 [3] [1]Chapter 1 - Project Purpose and Need
The Purpose and Need statement does not include the reason for the AEIS, which is the Corp's responsibility to protect the environment, especially the waters of the Central Florida Phosphate District. In addition, downstream assets such as Charlotte Harbor and the Myakka River ( an Outstanding Florida Water) should be protected via the Purpose and Need statement.
Since the Purpose and Need is strictly to dig up phosphate ore, that allows mining in the entire CFPD and therefore the alternative of " no mining action" is null and void.
#2])>

Chapter 3 - Affected Environment
<([#3 [17][3] [16]3.1 While the study recognizes the need for fertilizer plants and phosphogypsum stacks, it doesn't consider the detrimental environmental impacts of them. All of the mining and processing operations involved with phosphate extraction are connected and by CEQ regulations, should be studied. #3])>
<([#5 [38]In addition, radiation from mining is not discussed and should be studied, as it is a public health threat and occurs in higher levels when the matrix is exposed.
#5])> <([#6 [14][49]Finally, transportation of the matrix should have other alternatives, such as transportation by truck or rail instead of the wasteful slurry method, utilizing massive amounts of water.

#6])>
Chapter 4 - Environmental Consequences
<([#4 [43][47][44]4.4 The study does not recognize the impact of the mines in dewatering surrounding wetlands and streams or the fact that mine reclamation never fully restores the groundwater systems that feed these wetlands and streams.

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52508 |
| **Hide Submitter:** | |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Helen |
| **Last Name:** | King |
| **Name Suffix:** | |
| **Title:** | O.D. |
| **Organization:** | |
| **Division:** | Not Applicable |
| **Address Line 1:** | 140 S. Oxford Dr. |
| **Address Line 2:** | |
| **City:** | Englewood |
| **State/Province:** | Florida |
| **Postal Code:** | 34223 |
| **Country:** | |
| **Phone:** | 9414747595 |
| **Fax:** | |
| **Email:** | thekingsom@gmail.com |
| **Number of Additional Commenters:** | 0 |

Submission number 275

Interruption of groundwater flow to creeks and streams by CSAs is permanent but never discussed. Reclamation does not attempt to recreate the groundwater plumbing that flows towards rivers and streams. #4])>
<([#7 [3] [44][46][1]4.5 There is no discussion of the impact of reduced water flows on the Charlotte Harbor Estuary of existing and future mines.
The AEIS only looks at single mine drawdown of water and single number flow loss for the major rivers. The entire CFPD should be looked at cumulatively and beyond into downstream waters.
#7])> <([#8 [22]The data used for flows involves annual averages, which conceals periods of drought and naturally lower flow when the mining impact will be much more serious.
#8])> <([#9 [34][45][3]4.7 The AEIS only addresses mine related jobs in the economic analysis, not fishery and tourism aspects downstream.
#9])> <([#10 [3] [46]4.12 The AEIS fails to show cumulative impacts. For instance, there is no chart or discussion to determine which mines will have overlapping or cumulative years of operation. Cumulative impacts should incorporate all past, present, and foreseeable future mining.The starting point should be the land in its natural state, not the state of past mining, where damage has already occurred. #10])>
<([#11 [46][43][44]There is no place in the AEIS to demonstrate the cumulative impact of groundwater pumping for all of the mines operating at one time. This is required under NEPA law. The same situation occurs for surface water impacts. The AEIS discusses individual mine impacts on an annual average basis, but never adds those impacts together.
#11])>

Submission number 277

July 12, 2012

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

*Re: Draft Areawide EIS on Phosphate Mining in the Central Florida Phosphate District*

Dear Mr. Fellows:

Thank you for the opportunity to review and comment on the May 2012 *Draft Areawide Environmental Impact Statement (AEIS) on Phosphate Mining in the Central Florida Phosphate District*. Charlotte County appreciates the consideration as the proposed actions represent threats and impact potentials which will affect our citizen's future wellbeing and the continuance of our communities. As we have mentioned before the health of Charlotte Harbor is vital to this county and to the people of this county. The artificial reef economic impact alone to Charlotte County amounts to approximately $28 million dollars a year, and we are very interested in any activity that could potentially impact our waters. We feel the AEIS fails or incompletely addresses some of our concerns as they pertain to the waters that enter our county.

**Water Resources**

When the AEIS states the reduction in flow is nominal because the numbers fall within one standard deviation the model fails to account for pre-existing impairments in the surface water bodies.

The AEIS projects the highest reduction in water flow into Charlotte Harbor to be 41cfs (cubic feet per second). While 41cfs may not seem large it equates to 9,672,106,968 (billion) gallons of water that will NOT make it into Charlotte Harbor in just 2030 alone.

On a per day basis for 2030 alone that is 26.5 million gallons per day, Peace River-Manasota Regional Water Supply Authority (where our drinking water comes from) by comparison uses about half that amount, 13.8 mgd. The AEIS predicts nearly 20 years of flow reduced by amounts close to this one year.

***Q.1-What will the effects be on the harbor after cumulative years of this reduction?***

The AEIS makes no reference to the cumulative potential for impacts over the span of the mining operations only the year to year "nominal" reductions. These reductions are seen as nominal because data indicates the flow reductions are within the natural fluctuations normally seen in the system but the proposed actions will not allow for years when the flow would be expected to exceed mean flow levels. In effect the proposed action is a continual drain on the freshwater delivery system without allowing for the natural "recharge" of excessive flow years because the mining operations will seek to capture and retain as much of that water as can be contained within the berm system of the mine. That captured surface water will only be released when the storage capacity is exceeded and the contaminant levels of that discharge will exceed monitoring levels for that event. Parameters are elevated for phosphorus, dissolved solids, conductivity, sulfate, and fluoride. Long term averages of course are lower because they are averaged over time when the capacity of the berm system is not exceeded and there are no discharges but the impacts of the spikes in levels is not addressed.

***Q.2-If discharges occur when capacity is exceeded and MWA uptakes occur at the same time, what is the potential for impacts on drinking water quality and quantity?***

Manasota Water Authority, the agency responsible for our drinking water, only harvests water when substantive flows in the Peace River are occurring. This could correspond to times when the mines containment capacity is exceeded and discharges of effluent are likely.

***Q.3-Freshwater flow reductions will have an impact on salinity and mixing points within Charlotte Harbor. Why is the issue not addressed within the AEIS? What background data was used to determine no impact?***

***Q.4 -Why use average groundwater usage over the maximum allowable by permit when constructing models to predict possible foreseeable impacts from groundwater withdrawal?***

The model projections rely strongly on the significant reduction in agriculture to result in increased groundwater levels. Why is there no analysis conducted based on no reduction in agriculture?

Groundwater will be impacted by mining in many different ways. Mining operations use some ground water directly for the initiation of the slurry process. This water is pumped from the Florida Aquifer System (FAS), a deep expansive aquifer that extends from southern South Carolina to the Florida Keys. Between the FAS and the surface of the ground are two other aquifers that will also be impacted directly or indirectly by mining, the Surface Aquifer System (SAS) and the Intermediate Aquifer System (IAS). These aquifers are indirectly linked by different geologic structures and to some extent be affected by withdrawals from each. The SAS and the IAS will be impacted indirectly by the Clay Settling Areas (CSA). The CSA are dense formation of clay that disrupt the groundwater flow and permeation of rainwater recharge into these two systems.

**Reclamation**

***Q.5-Part of the mining process is reclamation. To make whole the affected area and return it to pre-existing conditions. How does the AEIS address the loss of aquatic species to mining operations?***

Stream reconstruction does not equate to biota reconstruction of the aquatic system. Figure 12(appendix B) appears to indicate a downward trend in macroinvertebrate community assessment over a 5 year period. There is no indication that increased mining will restore the macroinvertebrate community assessment ratings.

Overall fish data for the Peace River Watershed have indicated a decline in the number of species present over time due to "alteration or elimination of habitat" and decline in water quality or quantity. (PBS&J, 2007) Increased mining activity will further stress this burdened system and further pressure the freshwater source of Charlotte Harbor.

The AEIS indicates the Applicants plan to mitigate onsite. The success rates of this mitigation vary widely based on the source of the information. "The reclamation efforts seek to establish a surficial soil horizon that emulates the characteristics of the unmined lands. However, the relative success of the efforts has been long debated due to the concerns that the reclaimed lands areas lead to alterations in soil conditions lead to modified rainfall infiltration rates and runoff conditions that in the aggregate modify localized site water balance conditions." In short, land reclamation is not easy or easily accomplished and is a long process that requires diligence and effort.

***Q.6 -When will the mitigation plans be included in the AEIS?***

At the time of the AEIS the applicants had not submitted the Clean Water Act section 404 permit application for wetland mitigation plans; USACE is currently verifying the applicant's determinations of jurisdictional wetlands.

**Economic Analysis**

***Q.7-The economic analysis was expanded to include the Port of Tampa and the potential impacts of mining and the "no action" alternative would have on the area but Charlotte County was not included in the analysis. Why is there no mention of the potential negative impacts to the county?***

As mentioned before the harbor is a major revenue stream for the county. Recent analysis show expenditures by users of the artificial reef program to be nearly $28 million dollars and more than 300 jobs within the county. Any alteration in salinity, dissolved solids or turbidity could potentially affect the industry associated with the harbor. Estuaries, like Charlotte Harbor, are particularly sensitive because much of the marine life found there are at the most vulnerable stages of development. The critically endangered small toothed sawfish and other species found in Charlotte Harbor require close scrutiny of any action with potential to affect environmental parameters in the habitat.

We are optimistic about the opportunity to contribute to the development of the AEIS document and would like to see these concerns addressed in the Final Draft of the AEIS. The issues mentioned in this response document are valid and should be addressed in the future progression of the development of the AEIS and the permitting process of the proposed mining actions. We believe that there is an option that permits the proposed action without facing potentially devastating results to the environment and the citizens of Charlotte County. Charlotte County looks forward to continued cooperation for the completion of these goals

Sincerely,

Christopher G. Constance, Chairman
Charlotte County Board of County
Commissioners

CGC/KS/j

#12-71

Submission number 278

FLORIDA CHAMBER of Commerce

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Tallahassee, FL 32301
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RECEIVED
JUL 26 2012
Tampa Regulatory Office

July 23, 2012

John Fellows, AEIS Project Manager
Army Corp of Engineers
Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

**Re: Draft AEIS Comments**

Dear Mr. Fellows:

On behalf of Florida's business community, I'm honored to write to you about the indispensable economic and social benefits of a vibrant phosphate industry in the Sunshine State.

The Florida Chamber of Commerce is our states' leading voice for business and a driving force in securing Florida's future. For nearly a century, the Chamber has worked to promote economic growth and opportunity for Sunshine State families, workers, and businesses.

Florida's economic future depends upon the continued prosperity of leading industries that create thousands of high-paying jobs, such as phosphate mining. Phosphate mining and production has been one of Florida's leading industries for more than a century. Expanding phosphate production in Florida is an important part of our state's long term economic plan. The economic contribution of locally produced phosphates and related agricultural chemicals is a key factor in Florida's strategic ports plan to double its exports. Essentially all of the phosphate chemical and rock production is produced for export from the Tampa Bay area. The biggest benefactor of this export is the Port of Tampa, another of our state's investments in leading the way in the global marketplace.

To promote a sound, sustainable and thriving economic future for Florida, the Florida Chamber of Commerce has led the Six Pillars 20 Year Strategic Plan, which envisions a series of action-oriented steps, programs, and policies to respond to challenges of global competition and to achieve long-term economic prosperity for Florida's families and businesses.

Along those lines, the phosphate industry fills an important role in several key elements of the Six Pillars 20 Year Strategic Plan, namely: promoting global competitiveness, cultivating vibrant communities and ensuring high-paying jobs. About 4/5ths of the country's phosphate rock is produced in Florida, making it the state's most important mined product. Indeed, the economic impact of the phosphate industry extends well beyond the communities it serves; the industry is a vital part of positioning Florida as a capable competitor in the global marketplace of the 21st Century.

I want to take this opportunity to commend the Army Corp of Engineers for its sound, science-based study on the positive impacts of phosphate expansion in Florida. I also want to urge you to resist any political pressure to block the necessary expansion of this essential Florida industry.

Sincerely,

David A. Hart

David A. Hart
Executive Vice President, Florida Chamber of Commerce

cc: Mark Wilson, President and CEO
Leticia Adams, Director of Infrastructure & Governance Policy

Submission number 279

Sheriff Grady Judd
Polk County
1891 Jim Keene Blvd. • Winter Haven, FL 33880 • Phone: 863.298.6200 • www.polksheriff.org



July 20, 2012

Mr. John Fellows
Regulatory Project Manager
Army Corps of Engineers
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, FL 33610

RE: Draft AEIS Comments

Dear Mr. Fellows:

As the Sheriff of Polk County, I serve residents of the northern portion of the Central Florida Phosphate District. Although mining is not a law enforcement function, the existence of Mosaic in my constituency does have a positive impact on crime.

In my 40-year career in law enforcement, one thing is certain – community partnerships are vital in ensuring the safest environment in which individuals can live, work, play, and raise a family. I believe in approaching and preventing crime holistically – from multiple fronts. Partnering with our business community is an integral component of this approach. Over the years, Mosaic has not just given back to the Polk County community, they have *invested* in it. No calculations or formulas can measure the value of their involvement; their efforts have helped to foster safe and desirable communities – the economic impact of which is invaluable!

Not only does Mosaic generously contribute financially to countless organizations that are positively impacting our county, but Mosaic's many volunteers donate thousands of hours every year to improve countless lives. The Mosaic organization doesn't just help communities exist – they help them thrive.

Providing Mosaic the opportunity to continue operating their business responsibly would benefit our community and quality of life.

Sincerely,

Grady Judd
Sheriff

GJ:gb

C: File

Submission number 280

LEE COUNTY
SOUTHWEST FLORIDA

RECEIVED
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Tampa Regulatory Office

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*County Hearing Examiner*

**July 24, 2012**

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

**SUBJECT: Draft Areawide Environmental Impact Statement (AEIS) for Phosphate Mining in the Central Florida Phosphate District**

Dear Mr Fellows:

Thank you for giving us the opportunity to review and comment on the above referenced document. Attached you will find our comments organized by section. Given Lee County's proximity to Charlotte Harbor, our review focused primarily on the potential impacts phosphate mining could have to the watersheds that drain to this significant natural resource. In summary, the document does not adequately address our previously stated concerns regarding phosphate mining and its impacts to Lee County's coastal and estuarine ecosystems. The analysis provided therein did not determine the potential changes of the volume, timing, distribution and quality of water entering the Peace and Myakka Rivers which are the major tributaries to Charlotte Harbor. Although there are some promising alternatives that offer buffers from critical environmentally sensitive land, it is hard to determine what the overall value and reduction of impacts will be, based on the simplistic methodology incorporated into the study. We hereby request the Corps consider our comments and secure the proper resources in developing an adequate and comprehensive analysis for submittal and review. In closing, we wish to underscore the importance of the AEIS to Lee County.

The northwestern boundary of Lee County is comprised of Charlotte Harbor. Sixty percent (60%) of Charlotte Harbor is within Lee County borders. The waters of Charlotte Harbor touch Gasparilla Island, Boca Grande, Cayo Costa, Pine Island, and Upper Captiva Island and flow into Pine Island Sound and Matlacha Pass, all within the boundaries of Lee County. The U.S. Congress has designated Charlotte Harbor as an estuary of national significance and the State of Florida has preserved 42,000 acres and 70 miles of coastline in Charlotte Harbor. The State of Florida and the Environmental Protection Agency have designated the Peace River Watershed as both a Priority Watershed and an Aquatic Resource of National Importance (ARNI). Charlotte Harbor is a major tourist attraction and provides an important source of seafood, recreational activities, and aesthetic amenities to Lee County with a multi-billion dollar economic impact annually. The sound condition of Charlotte Harbor is vital to the ecology and

economic well-being of Lee County and the region. The coastal waters and coastal areas of Lee County are an important natural resource that support plant and animal life essential for the continued utilization of this regional resource. The integrity of the waters of Charlotte Harbor is a matter of critical concern to Lee County because those waters affect the public health, safety, and welfare of Lee County's citizens and visitors.

Sincerely,

**Lee County Division of Natural Resources**

**Roland Ottolini, PE**
**Director**

cc: Col. Alan Dodd, Commander, Jax District, US Army Corps of Engineers
John Manning, Lee County Commissioner, District 1
Brian Bigelow, Lee County Commissioner, District 2
Ray Judah, Lee County Commissioner, District 3
Tammy Hall, Lee County Commissioner, District 4
Frank Mann, Lee County Commissioner, District 5
Karen Hawes, County Manager
Doug Meurer, PE, Assistant County Manager Public Works
Michael Hunt, County Attorney
Susan Henderson, Assistant County Attorney

## Summary

This review was limited to the chapters pertaining to water analyses (both quantity and quality) and focused on evaluation methodologies, quality of data and information used in the evaluation, validity of findings and conclusions. No electronic models or calculation files/programs were available for review – therefore, not reviewed.

In general, the AEIS has multiple major flaws including inappropriate evaluation methods, over-simplification of hydrologic process and its media, omission of critical components in hydrologic processes, and serious data gaps in which the analysis is based on. These major significant flaws are:

1. In the Surface Water Analysis, only the annual average rainfalls and flows were considered while the purpose of AEIS is to evaluate "cumulative environmental impacts" of proposed mines. Needless to say, Florida has two extreme meteorological and hydrological challenges over two distinct seasons: flooding during wet season and drought during dry season. Any "Environmental Impact Analysis" excluding these two extreme hydrologic conditions has minimum scientific value. In other words, by considering only the annual average hydraulic conditions, it is impossible to determine the real impacts of the proposed mining activities (e.g., excavation, ditches and berms, impoundments, etc.) during dry and wet seasons (both the severity and duration of impact). Subsequently, the water quality impacts associated with the extreme hydrologic conditions cannot be determined and were inappropriately evaluated in the report.

2. In the Groundwater Analysis, an over-simplified approach was also used as well. That is, only the annual average pumping for the mine industrial use was analyzed. Typically, during a dry season groundwater pumping is higher and the groundwater potentiometric level becomes low – which means the water level drawdown becomes significantly larger compared with an annual average pumping rate. This seasonal effect level was not analyzed.

   In addition, the Surficial Aquifer System (SAS) was not analyzed – although the SAS was included in the numerical model. Note that the proposed mining will take place in the SAS. Consequently, the SAS is the aquifer directly impacted by the mining activities (i.e., excavation, beneficiation, and impounding, etc). These hydraulic alterations both above and underground (within the SAS) will directly influence the hydrology of creeks and wetlands in terms of water levels, flows, ponding durations, and water quality. None of these potential impacts was analyzed.

3. Dynamics of surface water and groundwater interaction were completely ignored. The proposed mine areas show close interactions of the two water bodies via recharge and discharge. Considering only one medium at a time ignores the dynamics of inter-dependency of the two media and consequently any findings will be misleading. There are existing integrated models applied at the very watersheds the mines are proposed

(Peace River & Myakka River). Yet, instead of using the existing integrated models, the AEIS used an over-simplified model. It is noteworthy here to quote the AEIS's own language to demonstrate the importance of the "sophisticated integrated modeling":

> *"Today, the phosphate industry uses sophisticated integrated surface water/groundwater modeling to predict target hydrologic conditions in mitigation wetlands and streams. Today's advanced construction technology, such as laser and global positioning system (GPS)-guided earthmoving equipment, provides the means to precisely contour the land to achieve desired elevations and hydroperiods." (Page 5-3, Chapter 5 Mitigation, AEIS)*

Please follow the above mentioned practice in the phosphate industry by providing an integrated hydrologic model using the advanced technologies and the existing data (such as the seasonal hydrologic records and the LiDAR data) and properly evaluate the potential environmental impacts. An integrated model is required to evaluate the cumulative environmental impacts of phosphate mining on stream flows, sheet flows, base flows, frequency and duration of wetland inundation and wetland connectivity. Failing to use an integrated model is a significant flaw in the method of evaluation.

4. The Water Quality Analysis is based on the past water quality data at the existing mine sites to conclude "no adverse impact". Note that the referenced water quality data was measured on quarterly sampling frequency for merely six years (2005-2010). This is too short of period to the proposed project over the fifty-year mining plans into the future. More importantly, those quarterly samples most likely have missed the majority of extreme daily flows and concentrations. Even the AEIS states that the monitoring records "confirm that offsite discharges from phosphate mines occur primarily during wet season or large storm events (page 4-123, lines 31 through 33)" – which apparently have caused downstream pollution. When the existing mines have been polluting the system, does it become intuitively obvious that additional mines pollute more?

   Nevertheless, the applicant asserted that "long-term averages (water quality) generally are in compliance with the surface water quality standards". (Executive Summary, page 28) However, it "has been confirmed" that those discharges of toxins and extra nutrients during heavy storms were the ones that have been polluting the environment. Therefore, the projection of "no Impact" (which was based on the incomplete historical data) has no base and misleading. Furthermore, the FAS water has different physical and chemical properties compared with the SAS water – and the potential impact of mixing two different aquifer waters through the beneficiation process and settling ponds was not evaluated either.

5. Numerous alternatives are considered to the applicant's proposal, including buffers and setbacks from stream corridors and preservation of significant environmental lands. These should be given serious consideration in formulating a selected plan by the Corps, demonstrating reduced impacts and opportunities where mining can co-exist with the natural system.

# Comments

### ES.5 Alternatives Evaluated in the Draft AEIS

P.4, line 22 –
It seems the screening process becomes exclusive, in that it blocks consideration of public lands designated as parks, urban areas, etc. This implies all of the remaining land is not excluded from being used in mining or activities related to mining.

In Lee County mining operations have targeted the limerock rich area in the central County. In order to minimize potential impacts to sensitive local and regional resources, Lee County requires the applicants to provide extensive groundwater and surface water models prior to mine approvals. This area has been designated the Density Reduction / Groundwater Resource (DRGR) in recognition of the area's role in the region's ground water supply. While not as expansive as the Central Florida Phosphate District (CFPD), projects within the DRGR are none the less assessed for similar reasons. The potential for similar adverse impacts is also evaluated due to projects within the DRGR being located at the headwaters of several Outstanding Florida Waters (OFWs) and an Aquatic Preserve (Estero Bay).

There is a general understanding of the downstream impacts of these developments on sensitive receiving waters. One of the nuances of an OFW is any increases in water quality above background is considered a violation. Simply meeting standards is not sufficient to protect existing aquatic systems. One would hope the AEIS would also require a similar level of assessment of the cumulative impact on the sensitive receiving waters and estuaries relative to the CFPD. This is due to the estuarine and critical nursery habitat potentially at risk, as well as potential impacts to the entire economically associated marine and tourist industry. This would include all of the potentially impacted or downstream creeks, rivers and estuaries, as all would be potentially be influenced by water quality degradation or any changes to quantity, timing or distribution to the system.

Such potential changes may include but not be limited to source modifications to the receiving waters. These could be as innocuous as changing background chloride concentrations in the receiving above background or by modifying the freshwater timing and distribution during the dry season in the receiving waters. To that end, it is not out of line to request background assessments made in the receiving waters as well as the existing sources (which will be disturbed or destroyed by the proposed action) prior to permit issuance. This is important due to the potential loss of the freshwater timing and distribution for downstream aquatic flora and fauna in the receiving waters and the associated habitat.

Regionally, this is the watershed serving several streams and rivers which comprise a significant portion of the base flow for the Charlotte Harbor estuary system. As such, the disruption, alteration and removal of significant portions of the surficial matrix (SAS) serving as the conduit for the groundwater base flow to these streams and rivers must be a significant portion of any assessment or study.

The Surface flow evaluation methodology used average annual flows for comparison of downstream system viability through the evaluation process. It is shown in estuarine system evaluations; the health of the system is dependent upon the range and duration of the isohaline zone. Average values do not assure system health. Extremes in concentrations and duration have been shown to negatively impact system viability and indeed result in system failure while maintaining an annual average. The more important measure is base flow. It is one of the more relevant metrics for system survivability. Flash flows with high runoff, reduced periods of runoff, increased runoff rates combined with periods of extreme low flows may have an acceptable average annual flow. However, a source with a "flashy nature" has a negative impact on the receiving system. Submerged aquatic plants do not survive in extreme saline conditions which are unstable beyond the survivable range of the plant species.

The cumulative impact of all of the projects on the receiving or adjacent ecosystem is difficult to predict. It is almost impossible to detect over an extended period, as changes occur gradually, precluding comparative evaluation or allowing the impact of contrast to be used as a metric.

The average annual flow assumption of impact is a flawed assumption. The impacts to receiving waters, their associated ecosystems, flora and fauna are significantly impacted by changes in base flow, as opposed to the average annual flow.

**ES.6.1 Ecological Resources**

P. 14, line 7 -
Is there concern for the comparison for no action versus action? It would seem appropriate to determine "background or natural conditions.

- Alternative 1 The statement concerning development causing increases in surface water runoff ignores the current pre equals post rule. If there are increases after development with the current development standards, the standards obviously do not function as designed and are in need of revision. It seems presumptuous to say the Ag uses will remain the same if the mines are not constructed, in that no alternative uses or restorative efforts are considered under this study. In plain words, if the mine is not constructed and the plan(s) of reclamation not followed, things will remain the same. Thus no other actions or improvements are considered.

- Alternatives 2-5 See Table ES-2 Under these alternatives improvements are assumed to be possible (unlike alternative #1).

**ES.6.2 Water Resources**

**ES.6.2.1 Groundwater**
Groundwater levels have been shown to be lowered by 20 feet for extended periods in the SAS. The new recharge ditch designs are shown to improve the condition but there are no specifics as to their effectiveness. A viable groundwater source for the SAS is vital for biological

sustainability. The SAS is the base flow source for local streams and lakes. Altering its ability to supply adequate hydration to wetland and other downstream systems has the potential to impair the sustainability of downstream systems and receiving waters.
Dewatering in the area involves the use of existing wells, as opposed to new wells for the Desoto operation. Water use from an existing well or a new well has more to do with the impact on the aquifer as opposed to the well construction.

Although the cumulative impacts of these two mines were referred to in the cumulative impact section (section #7), the cumulative impact was not shown as being modeled. This should also include all of the impacts of all permitted users. In this reader's opinion, the assessment performed did not adequately reflect the cumulative potential withdrawal impact to the resource of all of the permitted users in the CFPD. Thus, the impact of the CFPD users on the resource has potential to be significantly underestimated. As such, the actual resource available for base flow may be insufficient to meet the need of the system.

**ES.6.2.2 Surface water**

P. 23, line 22 –
It is counterintuitive to have the previous statement regarding the hydrology link between rainfall, surface and ground waters and with the magnitude of the area disturbed due to mining in the CFPD to not have a comment concerning the impact the disturbance had, has and will have on the hydrology of the area.

P. 23, line 28 –
The drainage area of the CFPD will be substantially impacted by the hydraulic modifications associated with the mining disturbances. As such, the receiving waters will be negatively impacted during the period of the mining activity until the area can the reclaimed and returned to its pre-mining condition. The mine's water budget becomes impaired for the period of time where the SAS and natural wetland and streams are disturbed and augmented by interior recirculation ditches until the system function can be restored to pre-mining condition. The habitat and ecosystem loss during the undetermined time period was not quantified or discussed.

Major rivers are impacted during the life of the mines. When the mine area is reclaimed, the flows and useful life of the mine area is restored. However, this takes over several decades. It is difficult for a natural system to remain viable for years of adverse conditions. The Peace River will be impacted by three of the proposed mines and is the major freshwater source for Charlotte Harbor. As such, base flows have potential to be negatively influenced by the proposed hydrology impacts. Base flows are critical in their role during zooplankton development. Proper saline distribution in the river course provides micro environments suitable for specific species, this combined with base flows, helps in dispersal of predator and prey species.

### ES.6.3 Water Quality

The study implies the water quality impacts influence only the Floridan aquifer. Other water quality impacts are implied to be less consequential. The total consumptive use (all uses, all aquifers, including SAS were not considered in this chapter summary). The quality and quantity of water supplied to receiving waters (surface runoff and base flow) has not been sufficiently addressed. The SAS has connection to wetlands and streams yet assumed insignificant.

### ES.6.4 Economic Resources

Economic analysis must include loss of revenues to fishing, boating, recreation and tourism industries due to impaired waters resulting from mine alternatives. The economic value of natural systems must be included to evaluate the trade-off.

### ES 7.1 Ecological Resources

P. 31, line 12 –
That is the "short term" loss of 50 miles stream length. All of these streams provide base flow for the receiving waters. The loss of base flow for a period of several decades (short term) is not conducive to sustainable conditions. While the mitigation plans address the acres lost/restored, they do not address lost groundwater flow or the restoration of same to receiving waters. Created wetlands are not equivalent in value to connected wetlands contributing to base flow. The acreage of constructed wetlands is not equivalent to natural connected wetlands, unless there is a maintained connection (groundwater base flow) to the receiving waters.

### ES.7.2 Floridan Aquifer Responses to Phosphate Mining

Regional groundwater will increase in the Floridan Aquifer System (FAS) due to agricultural reductions by 2025, regardless of the mining scenario. However, the FAS scenarios presented do not incorporate all water use permits. In order to provide a water balance for the aquifer, all WUPs must be taken into consideration.

The contribution of the FAS to base flow is stated and the projection of the potential for increases to the FAS water level is discussed. However, the impact of the loss of the SAS is generally ignored or minimized. The linkage between the SAS, wetlands and riparian waters in the headwaters of these area streams and rivers is critical and at the very least must be assessed.

### ES.7.3 Cumulative Effects on Peace and Myakka River Discharges to Charlotte Harbor Estuary

Although the analysis is questionable based on comments herein, a 16% reduction in average annual flows to Horse Creek should be considered significant. To provide an adequate analysis of potential impacts, seasonal flows as well as drought and flood conditions must be evaluated,

including an assessment of the volume, timing, and distribution changes due to alternatives considered.

### ES.7.4 Local and Regional Economic Ramifications of the Reasonably Foreseeable Future Mines

Again, must include the economic value of recreation, tourism and the natural system and the loss of revenues due to mine alternatives implemented.

## Chapter 1 – Project Purpose and Need

### 1.1.3.3. Historical Technological Developments in CFPD Mining

Page 1-7, Table 1-1 Industry Timeline –
No dam breaks or spills are listed in the chronology. These events are very important episodes in the industry timeline and should be acknowledged, although they are discussed later in the AEIS.

### 1.3 PROPOSED ACTION

P. 1-24, line 17-21 –
The "Hardee County Mining Overlay – South Segment" was included as a potential future mine along with two other sites (Pioneer and Pine Level/Keys Tracts). However, it was determined that the potential future mine should not be considered in the evaluation because *..."insufficient information was available about the potential contribution of this parcel to cumulative impacts."* Lack of information does not make an activity any less likely. The site should be assessed in detail in the cumulative impact assessment, especially surface and groundwater quantity and quality analyses, along with the other two potential future sites.

P. 1-24, line 22-35 –
In-fill properties (parcels adjacent to or near proposed mine sites that may be acquired by the mine companies) are not considered in the impact analysis. Although in-fills are generally small compared to a mine's total area they should be included to establish a cumulative effect.

## Chapter 3 - Affected Environment

### 3.1.5 10-Mile Limit for Pumping Phosphate

P. 3-6, -
Although 10 miles may be an industry rule of thumb for the greatest practicable distance to pipe slurry from a mine to a beneficiation plant, this distance should not be used as an absolute limit for mine or plant siting. Given that piping/pumping expenses and other factors are more onerous with longer pipe distances, other factors could over-ride this one factor.

### 3.3.2 Water Resources

P. 3-51, line 10-13 –

Minimum flows for the Peace River are discussed with respect to the use of the river as a source of potable water. However, there is no analysis of the magnitude of impact that the projected reductions in flows from the proposed and potential future projects may have on the ability of the PRMWSA to withdraw water. An assessment of the potential number of days that water could not be withdrawn from the Peace River, and the reduction in withdrawal volume that may result, should be included in the AEIS.

### 3.3.2.1 Surface Water Hydrology

P. 3-38, Table 3-3 –
Cumulative impacts on net discharges downstream and ultimately to the Charlotte Harbor Estuaries from multiple mines were estimated using the USEPA Simple Method. One of the parameters used in the Simple Method is the drainage area that contributes to the gauged location. The Horse Creek sub-basin area in Table 3-3 is reported to be 200.7 square miles. This differs from the sub-basin area of 218 square miles reported by the USGS for Horse Creek at Arcadia.

P. 3-47, line 9-15 –

Florida law (Chapter 373.042, Florida Statutes) requires the state water management districts or the Department of Environmental Protection to establish minimum flows and levels (MFLs) for aquifers, surface watercourses, and other surface water bodies to identify the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. (Lines 9 through 15). However, it appears that the groundwater MFLs were conducted using annual pumping. The MFL impact should be analyzed using the worst case drought period pumping rates, not annual pumping rates. Note that seasonal groundwater fluctuations appear in the range of 30' to 50', according to the Appendix D (Figures 4 & 5 and the statements on page 16).

Also, no surface water impact on the State's MFLs was evaluated and therefore it is necessary – not using the "annual rainfalls" but the dry season precipitation with the proposed land use change.

### 3.3.3.1 Surface Water Quality

P. 3-83, line 8-13 and Appendix B –
A portion of the Sarasota Bay Estuary Program watershed, as well as Tampa Bay and Charlotte Harbor Estuary Program watersheds, is within the CFPD boundary.

P. 3-84, line 9-14 and Appendix B –
Numerous highly protected water bodies (Outstanding Florida Waters, Class I and Class II), including the lower portion of Horse Creek, exist downstream of the proposed projects. These sensitive water bodies are much closer to the proposed projects than existing mines that are located farther north, and are thus more vulnerable to water quality impacts. Enhanced structural and non-structural Best Management Practices (BMPs) must be required and their continued functionality rigorously enforced to provide reasonable assurance that future mining operations will not affect these waters. The Applicants' ability to provide this assurance must be demonstrated for isolated and periodic events, not just for long-term average conditions.

P. 3-86, Table 3-8 and Appendix B –
TMDLs are discussed, but there is much less emphasis on the numerous water bodies deemed impaired under the State's Impaired Waters Rule (CH 62-303, F.A.C.) that do not have TMDLs adopted yet. Impaired WBIDs have been determined by Florida Department of Environmental Protection (FDEP) to not meet their designated uses because of excessively high concentrations of nutrients, biochemical oxygen demand, fecal coliform, or other pollutant; or low dissolved oxygen (DO) levels. These water bodies, and potential methods for pollutant load reductions from mining areas, should be discussed in detail in the AEIS. Almost 50 impaired WBIDs within the CFPD are covered under the 1999 Consent Decree and are listed in Appendix B. These are the WBIDs that were committed to have TMDLs completed by 2012. Although many were originally designated as "low" priority, now that the deadline for TMDL development is approaching their priority should be perceived as more urgent. It is likely that many of these WBIDs will have TMDLs set or proposed within the lifetime of the proposed projects (if the projects are approved).

Of special concern is Limestone Creek, which runs through the "Hardee Mining Overlay - South Segment" potential future mine project (Alternative 8). The high priority WBID (#1921) is on the 1998 303(d) list for excess nutrients, total suspended solids, and fecal coliform bacteria; and low DO. Additionally, EPA published a TMDL for Limestone Creek and other Peace River tributaries in 1996. EPA deemed Limestone Creek impaired for high nutrients and low DO, and set a TN load reduction for the entire creek basin of 42% as necessary to meet the designated use of the water body. There is no discussion in the AEIS regarding how mining of this water body would affect its status as impaired, and how the load reduction would be accomplished both during active mining and after reclamation.

P. 3-92, Table 3-9 and Appendix B –
The state's proposed numeric nutrient criteria (NNC) are discussed and presented. The AEIS states "...if these deliberations reach resolution prior to the completion of this AEIS, further consideration of the alternatives under AEIS review will need to address these new regulatory requirements..." The NNC were recently upheld by an administrative law judge, so the alternatives should be revisited in light of the current NNC criteria.

Additionally, FDEP has developed new dissolved oxygen (DO) standards for fresh and marine waters. The new standards are based on percent saturation of oxygen in lieu of the existing concentration-based standards. The DO criteria for Florida's Class I and III freshwaters recommended for adoption are expressed as:

> *The daily average percent DO saturation shall not be below 67 percent in the Panhandle West bioregion or 34 percent in the Big Bend, Northeast and Peninsula bioregions.*

The CFPD is in the Peninsula bioregion. Likewise, the proposed DO criteria for Florida's Class II and III marine waters developed from the application of the USEPA Virginian Province approach to Florida-specific fish and invertebrates is expressed as:

> *The daily average percent DO saturation shall not be below 41.7 percent.*
> *The 7- and 30-day average percent DO saturations shall not be below 51.0 and 56.5 percent, respectively.*

As with the proposed NNC criteria, the proposed DO criteria appear likely to be adopted. Therefore, related water quality elements of the AEIS should be revisited with respect to the proposed criteria.

## Chapter 4 – Environmental Consequences

### 4.1 Introduction

P. 4-1, lines 21-29 –

AEIS reads "*Determination of significance, as described in 40 CFR 1508.27, requires considerations of both context and intensity. Context considers the locale of the impact and the region. Intensity considers the severity of the impact, ...*" Then, in the following sections, both the surface water and groundwater analyses were presented using the annual average rainfall and annual average groundwater pumping rates, respectively. The "severity of the impact" CANNOT be evaluated using the annual average hydrologic stress data. As shown in the stream gauge records at Peace River Basin (Hydrogeologic, 2012, page 3-2), 6.6 inches of extra rainfall (during wet season when ground is saturated) causes a significant stream flow at all gauges. These seasonal high and low stresses must be used both in the surface and groundwater analyses to properly evaluate intensity and context of the environmental impact.

### 4.2.2.1 DWRM2 Analytical Overview

P. 4-15, lines 16 - 30 and Appendix D –
Computer modeling to evaluate potential mining impacts to groundwater incorporates reductions in agricultural pumping of 50 million gallons per day (mgd) by 2025 to meet the goals of SWFWMD's Southern Water Use Caution Area (SWUCA) recovery strategy. Timely permit holder compliance with these reductions is uncertain and the use of the reductions in the model may result in a potentially overly-conservative estimate of possible effects. Running the model without the reductions would give an indication of impacts under a less idealized scenario. Also the stated method of allocating the reductions equitably to all agricultural wells may not be accurate. It is more likely that large corporate permittees, rather than the smaller (but numerous) independent users, would be more likely to implement the cutbacks.

### 4.2.2.2 Key Working Assumptions for the Groundwater Modeling

P. 4-15, lines 1-4 and Appendix D –

AEIS reads *"Conversely, it is acknowledged that under drought conditions, increased pumping rates and longer duration FAS withdrawals can be needed. For this AEIS evaluation, however, the analytical focus was on long-term average conditions and the conservative approach adopted was to conduct the model simulations using the annual average allocation rates."* Again, the "long-term average conditions" DO NOT reveal the severity of the impact which is induced by the acknowledged increased pumping rates and longer duration of withdrawals under drought conditions. The seasonally varying pumping rates must be used to properly evaluate the impact.

### 4.2.3 Surface Water Resource Evaluation Methods

P. 4-20 first paragraph and Appendix E –
In the Surface Water Analysis Methods section the AEIS states that "...a reasonable quantification of the potential reductions in offsite flow rates during active mining was needed to evaluate the reduction of runoff that may occur on a long-term average basis." While this statement is true, an evaluation of the variability in flow reductions and subsequent resultant flows under a range of conditions should also be completed. An expanded analysis of off-site flows for varying annual rainfall conditions, and a seasonal analysis should be included. Environmental impacts are just as, or more, likely as a result of seasonal or periodic effects than long-term average conditions.

The health and sustainability of downstream ecosystems are dependent on a certain range of volume, timing, distribution and quality of surface water runoff and base-flows. The interaction with the surficial aquifer system cannot be ignored and warrants the use of an integrated model. In order to provide an adequate analysis of potential impacts of mining or other watershed scale land use activities, a continuous simulation of the duration of mining activity for a series of hydrologic scenarios must be provided and compared to current and historic natural system conditions.

The methodology employed is a gross oversimplification of a very complex process and should not be relied upon for decision making regarding hydrological impacts.

How does reclamation restore basin runoff? Are they set to historic grade lines, runoff conditions and soil matrices?

P. 4-20, line 15-16 and Appendix E –
The AEIS reads "the method (of surface water analysis) should account for a seasonal component since central Florida has distinct dry and wet seasons." However, this seasonal component was completely ignored by using the "annual average" rainfalls in the Appendix E. The ACOE should either adequately address these conflicts and errors in both assumption and method, as well as their impacts on the conclusions in the final document or openly discuss the inadequate assessment and the resulting error(s) in the conclusions.

P. 4-21, lines 3 ~ 26 and Appendix E –
The rational method used in the AEIS is the simplest and the most widely used for runoff analysis. But it has major limitations. One of the major limitations is that the method was developed for a small catchment area – in the order of up to few hundred acres mainly for storm sewer design. Note that the size of Peace River Watershed alone is approximately 1.5 million acres. Furthermore, the rational method does not take into account for major hydrologic components including spatial and temporal variation of rainfall, stream flow runoff within the watershed considered, antecedent moisture conditions, etc.

Considering these limitations, the hydraulic impact of the proposed mine ditches and berms and impoundments cannot be evaluated with the rational method. Note the proposed activities described on page 4-22: *"Large areas that are to be mined (mine blocks) are surrounded by ditch and berm systems before active mining operations and the ditches support surface water management for the active mine areas until those lands are reclaimed and subsequently released from the regulated areas".* A more advanced overland flow calculation method needs to be applied (e.g., MIKE SHE / MIKE-11, MODHMS, or SWMM, etc.).

Also, AEIS cited that the Janicki (2010) report used the same rational method for pollutant loading calculations for Charlotte Harbor National Estuary Program. Note that the Janicki report used monthly rainfall (not the annual average rainfall). But AEIS used the annual average rainfall, and this over-simplification is not acceptable.

**4.2.4.2 Key Assumptions Supporting the Economic Analysis**

P. 4-27, line 15 –
The economic evaluation lists reclamation costs at $8.015/acre. This seems appropriate for uplands but wetland reclamation costs are typically listed as $40,000/acre or more. The AEIS lists a total of 9850 acres of wetlands to be affected so an increase in the cost of their reclamation by a factor of 4.5 - 5 is substantial.

Must include the economic value of recreation, tourism and the natural system and the loss of revenues due to mine alternatives implemented

**4.3.2 Potential Ecological Effects on the Applicants' Proposed Mine Locations**

Nearly 49 miles of streams impacted is a disturbing figure. Minimization and avoidance of theses impacts should be a priority in alternatives chosen.

**4.3.2.2 Alternative 3: Ona Mine**

P.4-35, line 14-15 –
The impact figures do not match Table 4-6 on P.4-30.

**4.4.1 Predicted Florida Aquifer Response to the No Action Alternative**

P. 4-65, Figure 4-20 and all drawdown maps and Appendix D –
What does the drawdown represent - annual average, maximum instantaneous? This should be explained in the text and figure title. Also, a representation of seasonal maximum draw-downs should be included.

**4.4.2.3 Alternative 4: Wingate East Mine**

P. 4-77, line 27 and Appendix D –
No new Floridan aquifer allocations are proposed for some proposed projects which, the AEIS states, will not increase the magnitude of drawdown but will extend the duration of the impacts. Duration can be as important an element of assessing impacts as magnitude and should be addressed. A time series showing maximum cumulative drawdown from all proposed and potential future projects should be included.

**4.5.2 and 4.5.3 (begin page 4-84) and Section 4.12 and Appendix E –**

All surface water analyses are presented on an annual basis. Given the distinctive season pattern of central Florida's weather and hydrologic systems, the magnitude of stream flow reductions should also be presented on a monthly and seasonal basis. A seasonal evaluation is much more useful for assessing environmental stress than an annual average review. On page 4-114 the AEIS states that "...macro-invertebrate abundance and richness in this [Horse] creek

is greater during the dry season than during the wet season." This is one example of the importance of assessing the potential impacts to low flows in the lower order streams in the study area.

### 4.5.2 Surface Water Resource Impact Evaluations for the Applicants' Proposed Mine Locations

P. 4-88, Figure 4-36 and Appendix E –
The capture area graphics do not account for continuing on-site depressional storage resulting from the creation of lakes, which are projected to be of substantial acreage. Newly created lakes would result in a permanent loss of areas contributing to runoff.

Figure 4-36, 4-39, 42, 44, 47, and 49 - all capture area curves and Appendix E –
The curves were developed under assumed timelines for land preparation, mining, and reclamation. The ditch and berm system around a reclaimed area (which includes reclaimed and mitigated wetlands) is removed after the area is released by the agencies. The reclamation time period used to develop the capture curves was assumed to be one year after reclamation completion (Page 4-22 last bullet). However, information presented in Section 5 (Page 5-3 third paragraph and page 5-5 third and fourth paragraph) suggests that the time required demonstrating wetland mitigation success is longer than one year (at least two years and likely more, according to the AEIS). Consideration should be given to revising the capture area curves based on a more conservative estimate of the time needed for the release of wetland reclamation areas. This would not increase the magnitude of maximum capture area, but would lengthen the curve, thus increasing the total area under the curve and indicating prolonged potential impacts.

### 4.6.2 Evaluation of Effects of Proposed Mines on Water Quality

P. 4-107 (begin) Tables 4-19 to 4-26 –
Although it is understood that phosphorus levels are naturally higher in the study area it should be noted that all the outfall TP values do not meet the proposed NNC and are sometimes substantially higher that background/upstream values, as noted in the AEIS. Although generally meeting existing state standards, other parameters observed to be elevated over background levels include sulfate, fluoride, suspended solids, and conductivity, as noted in the AEIS. This section should include an examination of impaired waters and TMDL status of receiving water bodies, anticipated pollutant loading and Numeric Nutrient Criteria compliance.

Also (Appendix B Section 5), given the wide variability in sample values, as noted in the AEIS, the use of box and whisker plots to present the monitoring data results would be very informative in illustrating the range and distribution of concentrations observed. Long-term average values have only limited usefulness in assessing the potential for environmental effects.

P. 4-121 - 4-123 –
As mentioned in the General Comments section above, the "no water quality impact" inference is based on the limited past quarterly sampling records which apparently missed majority of high and low concentrations of physical, chemical and biological constituents. Therefore, an actual water quality analysis for each proposed mine site is needed. Even the quarterly sampling records (Figure 4-56 on Page 4-121) show the increased acidity and other parameters on early 2010.

### 4.6.5 Overview of Phosphate Mining Effects on Water Quality

Pollutant loading and concentrations need to be quantified through appropriate analyses to assess overall cumulative impacts. Drawing conclusions of no impacts based on reference sites as "short term consequence" is irresponsible. Water quality compliance should be shared by all stakeholders in the watershed. Current design criteria for BMPs do not meet new numeric nutrient standards and mining should take a lead role in assuring receiving waters are protected.

### 4.7 Economic Resources

Must include the economic value of recreation, tourism and the natural system and the loss of revenues due to mine alternatives implemented

### 4.10 Onsite Alternatives

These should be given serious consideration in formulating a selected plan by the Corps, demonstrating reduced impacts and opportunities where mining can co-exist with the natural system.

P. 4-156, Table 4-55 –
The on-site buffer analysis includes buffer setback widths of a minimum of 1,500 feet. Although this would provide substantial protection for sensitive areas, the amount of land that would be precluded from mining makes this alternative in its current form infeasible. Buffers of less than 1,500 feet should be evaluated. Narrower buffers would provide reduced protection but may be considered more feasible.

### 4.11.1 Geology and Hydrology

P. 4-164, line 6-16 –
The AEIS discusses "Environmental Management Plans" that are incorporated into WUPs issued by SWFWMD that require phosphate mines to initiate appropriate water table drawdown mitigation actions if deemed necessary to prevent dewatering impacts on nearby sensitive ecological habitats. However, there is no discussion of supplying wetlands that are not mined with sufficient surface water to maintain their healthy hydroperiods. Mining around a wetland will produce a topographic island with the wetland water level several feet higher than the water level in the surrounding dewatered area. Measures to maintain surface inflow, as well as elevate groundwater levels, should be discussed.

### 4.12 Cumulative Impacts

P. 4-169 –
Although the potential cumulative impacts of the four proposed projects, and in some cases the potential future projects are assessed, the subject project are only the latest to be proposed in the continuum of phosphate mine-related activities on the CFPD. Rather than use existing conditions, which include impacts from on-going mining, as a baseline from which to estimate new impacts (such as stream flow reductions), the effects of on-going and proposed mining activities should be examined as a whole to identify the true cumulative effect of mining in the CFPD.

### 4.12.2.2 Ecosystem Conditions, Stresses and Responses

P. 4-192, Table 4-66 –
This table shows a 59,000 acre (15%) increase in wetlands in the Little Manatee, Manatee, Myakka, and Peace Rivers basins, including a 22% increase in the Peace River basin, between 1999 and 2009. While these acreages may be valid they are counter intuitive and should be investigated prior to publishing.

### 4.12.3.2 Aquatic Resources and Upland Habitat

While it appears that the AEIS addresses on-site hydrologic and ecological impacts there does not seem to be an analysis of how the landscape changes from mining in the upper basins of the proposed watersheds will affect the downstream aquatic habitat integrity. The Peace River and Myakka River systems are estuarine systems and as such landscape changes that lead to hydrologic and hydraulic changes in their tributaries will alter the downstream estuarine system. It will be important to know the extent of the impacts of these estuarine systems as coastal communities rely heavily on recreational and commercial fishing as a substantial portion of the local economy. The Corps contends that the impacts to hydrology are negligible; however these estimated impacts have not been used to determine consequences for downstream affected users and fisheries. The Corps should consult with the National Marine Fisheries Service per the Magnuson-Stevens Fishery Conservation and Management Act to better determine the impacts to the fresh and estuarine system fisheries resources. See citation –

***Magnuson-Stevens Act - 104-297***

***(b) FISH HABITAT.—***

*(D) (2) Each Federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act.*

*(4) (A) If the Secretary receives information from a Council or Federal or State agency or determines from other sources that an action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by any State or Federal agency would adversely affect any essential fish habitat identified under this Act, the Secretary shall recommend to such agency measures that can be taken by such agency to conserve such habitat.*

### 4.12.3.4 Surface Water Hydrology

Page 4-232, line 3-18 –
The AEIS states that "Mosaic and CF Industries have included specific features designed to maintain overland flow (i.e., surface water runoff), yet goes on to re-describe the ditch and berm system that retains almost all stormwater. A series of outfalls is proposed to provide hydration to streams, but the methods are not stated. How can there be water available for discharge to streams when most needed, likely during the dry season, when ditch water is most likely to be recycled?

## 5.0 Mitigation

### 5.6 Mitigation Plans for Currently Proposed Mines

P. 5-19, Tables 5-1 - 5-4 –
Question: Do the wetland acreages listed as "reclaimed" include open water lakes?
Also see comments for reclaimed wetland release schedule in Section 4.5.2 above.

Question: Gypsum stacks are known to create acidic conditions in downstream watersheds, increase concentrations of arsenic, lead, cadmium, chromium, fluoride, zinc, antimony, and copper to concentrations known to be harmful to human health as well as introducing radioactive material to the environment that can affect surface and ground water as well as air quality. Will there be a plan in place for proper disposal or containment of the gypsum stacks?

## Section 6 - Compliance with Environmental Requirements

### 6.5 Clean Air Act of 1972

P. 6-3 –
Although TMDLs are discussed elsewhere in the AEIS, the Clean Water Act program should be included in this section.

## Appendix B - Water Quality Evaluations

In addition to the comments relating to water quality evaluation referencing Appendix B above, there are several sources of relevant information that were not considered in the AEIS evaluation. The Charlotte Harbor NEP has sponsored numerous technical studies to determine watershed-based water quality concentrations and pollutant loading levels that are protective of the Charlotte Harbor estuary. These criteria are an important management tool to help guide activities in the estuary's watershed. The potential for downstream effects resulting from mining are all the more critical in light of EPA's current emphasis on developing downstream protective values (DPVs) for in-stream flow and loads. The results of the CHNEP work link watershed-based nutrient concentrations and loads from upstream areas to receiving water nutrient and chlorophyll concentrations, as well as DO levels and water clarity. Summary information from the reports should be included in the AEIS with respect to potential effects from mining. Of particular concern are issues such as:

- How will nutrient concentrations and loadings generated on-site compare to existing levels?

- How might changes in concentrations and loads affect downstream resources?

- What measures will be put in place to counteract negative impacts should they occur?

The following CHNEP reports provide information regarding desirable limits on surface water pollutant concentrations and loads, and target concentrations for the estuary including the Tidal Peace River and Tidal Myakka River. Development of Numeric Nutrient Criteria for the Estuarine Waters of the Charlotte Harbor National Estuary Program (Janicki Environmental, Inc. 2011

- Numeric Nutrient Criteria Task 10 - Dissolved Oxygen (Janicki Environmental, Inc., 2011)
- Charlotte Harbor Numeric Nutrient Criteria: Task 9 – Downstream Protection Values (Janicki Environmental, Inc. 2011)
- Proposed Numeric Nutrient Criteria for the Charlotte Harbor National Estuary Program Estuarine System (Janicki Environmental, Inc., 2011)
- Charlotte Harbor Estuary Status and Trends: Water Quality Data Analysis and Report for the Charlotte Harbor National Estuary Program (Janicki Environmental, Inc., 2010)

**Appendix C - Ecological Characterizations**

See comments relating to ecological characterization referencing Appendix C above.

**Appendix D - Groundwater Modeling**

**1.0 Introduction**

P. 1 –
The District-Wide Regulatory Model Version 2 (DWRM2) was developed by SWFWMD for the purpose of evaluating "the water resources and regulatory permitting". To apply the DWRM2 at AEIS for cumulative environmental impact analysis, the model requires significant amounts of modification. The modification should include: surface water stresses (rainfalls, evaporations/evapotranspirations, and runoff), seasonal surface water runoff characteristics (creeks, wetlands/ponds, dikes/ditches, and berms) and the dynamic interaction of the surface water system with the SAS. The current AEIS considered none of these surface water hydrology features and its interactions with groundwater. Therefore, either modify the DWRM2 or use an integrated model (of surface water and groundwater). There exist two readily available integrated models: 1) Peace River Integrated Modeling Report, 2012, by Hydrogeologic; 2) Myakka River Watershed Initiative, 2008, by Interflow Engineering.

P. 4, P.7, P.8 –
The potentiometric surface shown at Figure 2 (Conceptual Cross Section Study Area) does not match with the monitored water levels in Figures 4 and 5.
The model selection process was not included in the AEIS. A numerical model should be selected by reviewing the available models to best achieve the prescribed modeling goals and objectives. However, AEIS selected the DWRM2 without evaluating strengths and weakness of the available models. Then, the limitations of the selected DWRM2 were used as a reason for over-simplifying assumptions and omissions of critical hydrologic processes in the system (see page 10 of Appendix D, for example). This approach is NOT industry accepted and the results from this modeling should be considered as preliminary at best. Please refer to the modeling guidelines listed below:
1) ASTM Guide for Application of a Ground-Water Flow Model – D5447-04, 2010;
2) USGS Guidelines for Evaluating Ground-Water Flow Models, 2004 – SIR 2004-5038;

3)
Groundwater Modeling Guidance for Mining Activities, 2008, US Dept of Interior, Bureau of Land Management
(www.blm.gov/pgdata/etc/medialib/blm/nv/minerals/mining.Par.60011.File.dat/GroundwaterModeling.pdf)

P. 21- 25 –
Several graphs showing the changes of simulated water levels indicate potential modeling boundary conditions effects. For example, on Figures 12 through 16 the 0.5 ft lines (of water level change) are too close to the constant groundwater head boundary – which may imply that the actual water level changes could be higher than the ones shown in the graphs. Either relocate the boundary outward or check the cell-by-cell flow outputs along the boundary to ensure no or minimum boundary effects.

**2.0 Conceptual Model**

P. 3 –
The AEIS states that SAS recharge rates vary with precipitation. It is unclear what precipitation was used as input for the model. This information should be included in the AEIS Also see comments relating to groundwater modeling referencing Appendix D above.

The DWRM2 model was developed to evaluate only the FAS water level changes and no attempt was made to evaluate or assess potential changes in surficial aquifer water levels or impacts to surface water features such as rivers, streams, lakes or wetlands.

CH2M Hill assumed no future increases in public or domestic water supplies for all of the future scenarios. Therefore, the results of the groundwater modeling appear to emphasize the simulated increases in FAS water levels associated with the planned 50 mgd reduction in permitted agricultural pumping by 2025 and the reduction in mining withdrawals associated with future cessation of currently operating mines. By not developing separate scenarios showing the effects due solely to reductions in agricultural pumpage and the effects due solely to mining pumpage, CH2M Hill has drawn attention away from the simulated draw-downs associated with the proposed new pumping at the Ona Mine and the extension of currently permitted pumping at existing mines that will be diverted to the proposed new mines. No effort was made to spatially quantify the planned agricultural pumping reductions.

As a result, it is impossible to discern where the increases due to agricultural pumping reductions would be located or concentrated. Impacts to spring discharge and baseflow contribution to surface water features were not evaluated, but are assumed to be positive due to a net increase in FAS water levels over the EM footprint due to expected reductions in agricultural withdrawals. In order to properly evaluate cumulative groundwater impacts 40 to 50 years in the future, it would seem relevant to assess production trends from all groundwater users.

## Appendix E - Surface Water Analysis

### 2.0 Analytical Approach and Validation

P.4-- P.23

It seems that the author of this Appendix E views the "long-term cumulative effects" analysis as equal to "over-simplification" – not considering major hydrologic stresses and processes. Nothing can be farther from the truth than this view. The "long-term" analysis is to better understand what the "short-term" or "event-based" analysis cannot provide. In Central and South Florida, it is ubiquitous phenomena that the so-called "event-based" and "short-term" analyses generally produces results which are insensitive to the anteceding soil moisture conditions (which varies temporally and spatially). Depending on anteceding soil moisture contents and saturation of local depressions, the same event-based storm can produce significantly different flows in the system. Long-term analysis can cover the shortcomings of event-based analysis, but it requires no-less degree of input data. It does NOT warrant nor justify the over-simplifications as used in the AEIS (i.e., annual average rainfalls and flows). Use of annual average values in the "Environmental Impact Analysis" produces no meaningful results and the results are gravely misleading. Therefore, the current analysis should not be accepted in scientific decision making process.

Also, the rational method ($Q = C_d * A * P$) is meant to be applied for a storm event with relatively a short duration – say in the order of hours. Florida State DOT published "Zones of Precipitation Intensity-Duration-Frequency (IDF) Curve (FDOT, Drainage Manual, 2000). According to the drainage manual, CFPD area straddles over three zones (6, 7, and 8). The IDF Curves show that the rainfall intensity in CFPD ranges from 1 to 4 inches per hour depending on storm duration (in the range of 1 to 5 hours) for the return periods of 2 through 100 years. However, the rainfall intensity used in AEIS is infinitesimally small when the maximum total annual precipitation is converted into hourly intensity. (65 in/yr = 0.0074 in/hr < 0.01 in/yr). This raises several serious issues with the application of rational method in CFPD area: 1) the annual total rainfall values may not be applicable; 2) the size of CFPD area is too big to apply the rational method; 3) to compensate this over-simplified method, the rather arbitrary term called "long-term (runoff) adjustment factors" may have become necessary. But this new term has no empirical verification or validation.

Therefore, the entire analysis presented in Appendix E needs to be rewritten using an appropriate runoff estimation method. The new method should use the seasonally varying actual rainfalls and flows and include the other detailed hydrologic features such as streams, ditches, dikes/berms, lakes/wetlands/depression areas, evaporation/evapotranspiration, recharge/discharge, topographic variations, etc.

**4.0 Capture Area Projections within Proposed Mines**

P.26-P.33 –
Individual and total capture areas for each of the watersheds impacted by a given mine were plotted. Predicted future flows with and without individual mines were plotted for the different watersheds for average and low rainfall estimates. However, these plots at the scales used tend to visually minimize the impacts to flow caused by mining and make comparisons difficult.

**5.0 Stream Flow Projections and Evaluation of Hydrologic Effects**

P.33-P.59 –
The results presented in Section 5.0 (Stream Flow Projection and Evaluation of Hydrologic Effects) should not be used in the scientific decision making process because the annual average rainfalls were used instead of seasonally varying rainfalls.

**5.2 Ona Mine Effects on Runoff Characteristics and Stream Flow**

P. 37, Table 6 –
This table shows land use-specific stormwater runoff coefficients for the Horse Creek and Peace River at Arcadia sub-watersheds without and with "implementation of the Ona Mine." Although it was not explicitly stated in the text, it is surmised that the "with mine" values are for the post mining and reclamation condition. The reclaimed land will have a totally different soils composition than pre-mining conditions. How were the post mining Cd values determined? Was it assumed that the hydrologic soils group was the same for pre-and post conditions? The methods used are not clear and appear to be somewhat speculative.

**5.7.1 Horse Creek and Peace River at Arcadia Cumulative Impact**

Our consultant digitized the plots of total capture areas over time from Chapter 4 and Appendix E for each proposed mine or mine extension. The digitized data were used to calculate a cumulative sum of the individual total mine capture areas for the Horse Creek subwatershed. The plot of the cumulative sum, along with the individual plots used to produce the cumulative sum, is shown in Figure 1 (see below). Similarly, capture area plots of individual mines were digitized for all watersheds and used to calculate the cumulative impact of the individual mines to all watersheds. Cumulative capture areas for all watersheds are shown in Figure 2 below.

P.52 –
The surface water analyses conducted used either average or low rainfall estimates. CH2M Hill states that during average rainfall conditions the largest impact on annual average flow from the Horse Creek subwatershed of 27 cfs was predicted to occur in 2030. For lower rainfall conditions, the largest impact on the Horse Creek subwatershed is 13 cfs. As shown in Figure 1, based on cumulative capture area, the largest impact of approximately 27 cfs would be expected to occur over a period extending from approximately 2027 through 2040, or about 13 years.

Potential seasonal impacts were not considered by any of the surface water analyses, which may be more important biologically.

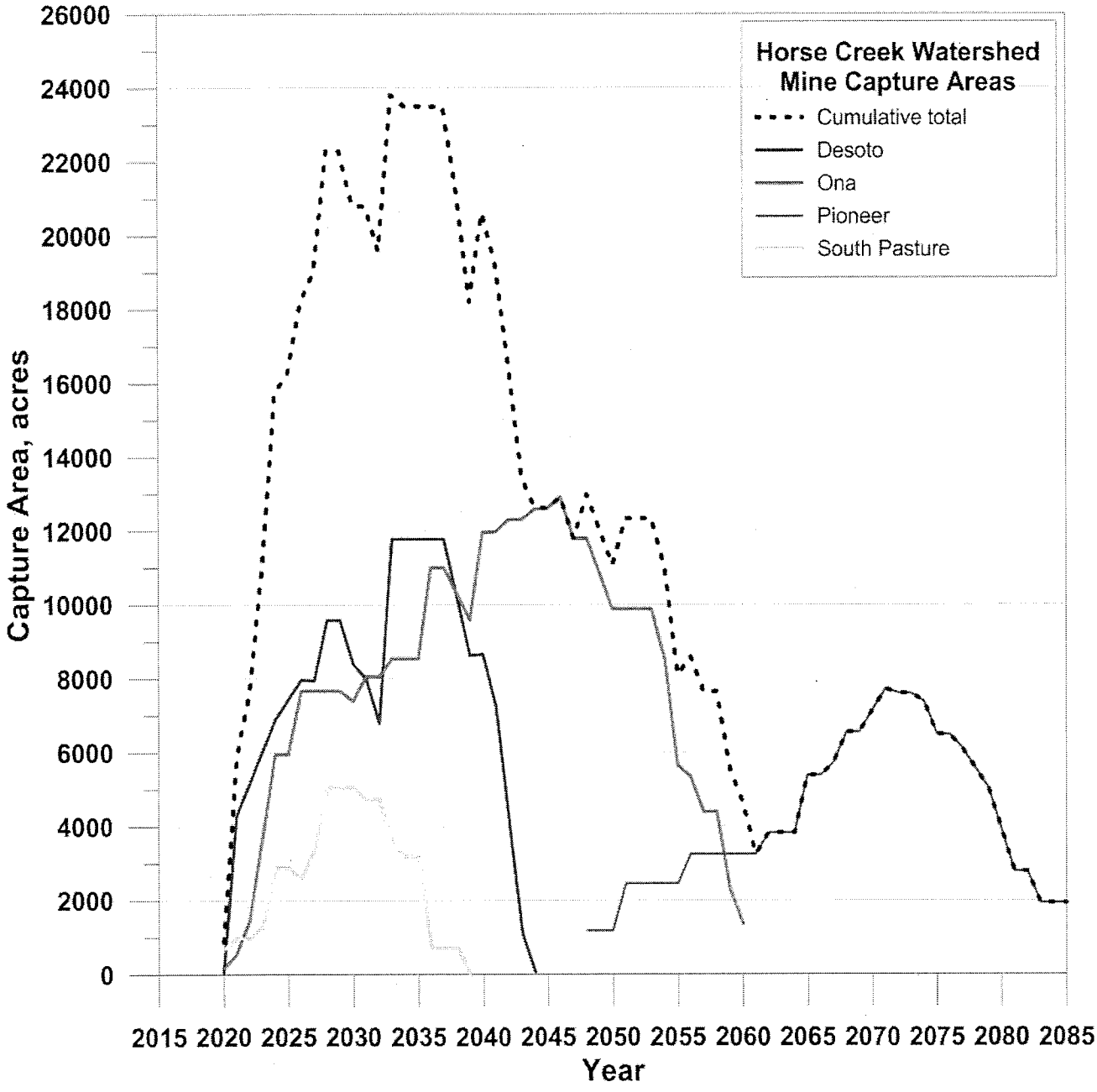



**Figure 1. Cumulative Mine Capture Areas Horse Creek Watershed.**

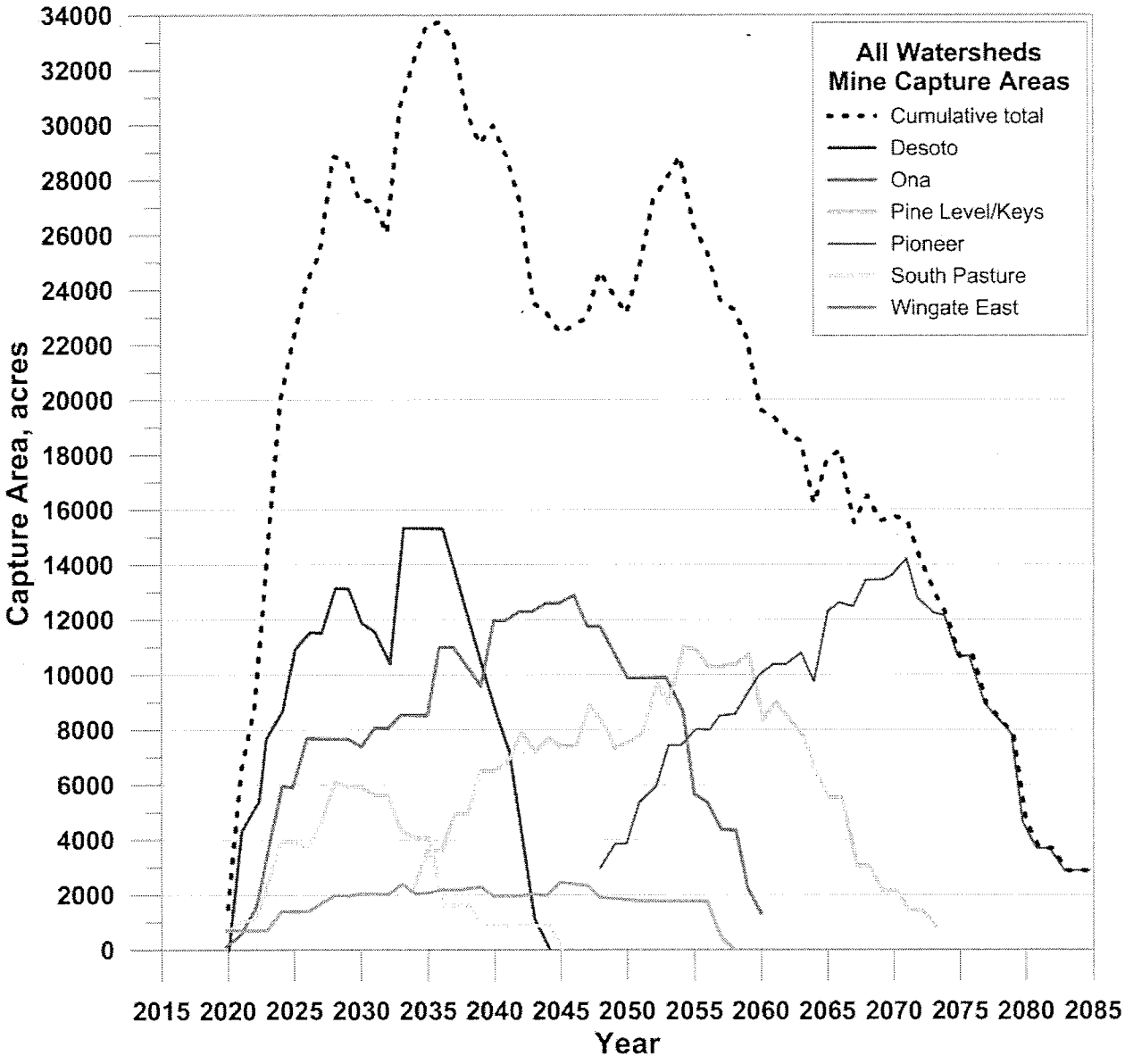



**Figure 2. Cumulative Mine Capture Areas All Watersheds.**

## References

Hydrogeologic, Jan 2012, Peace River Integrated Modeling Project (PRIM), Phase V, Prepared for Southwest Florida Water Management District.

Janicki Environmental, Inc., July 13, 2012, Memorandum to Lee County Division of Natural Resources, Janicki Environmental Review of Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District.

SDI Environmental Services, Inc., July 12, 2012, Memorandum to Lee County Natural Resources, SDI Review of Surface Water Modeling Described in Chapter 4 and Appendix E of the Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District.

US EPA, July 8, 2011, About Phosphogypsum.
http://www.epa.gov/rpdweb00/neshaps/subpartr/about.html#stacks

Submission number 281

Re: Army Corps of Engineers AEIS Draft



July 25, 2012

USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

Although the time frame for comments on the draft AEIS is insufficient to allow for a thorough review, we have read enough be concerned that the study is lacking in independent research, particularly regarding reclamation of wetlands and water issues related to phosphate mining. **While ecosystems are being lost, the AEIS focuses on short-term economic factors and does not consider the value of Florida's natural resources – clean air, water, wetlands and native habitat.**

Executive Summary 6.2.1
**The AEIS relies on reporting, documents and models provided by Mosaic. None are independently verified.** In this section the study says, "Monitoring wells operated by the applicant show reduced water use. Pilot studies of improved recharge ditch designs -- to increase groundwater recharge – have shown these measures to be effective." Reports by Mosaic of reduced water use are a core of the AEIS and form the basis of projections about future water supply in the Central Florida Phosphate District.

The AEIS whitewashes the "mining industry's current water management practices that emphasize conservation strategies designed to reduce reliance on the Floridan Aquifer System." **There is no evidence presented to show that – "reduction in phosphate mining effects on the FAS has been accomplished."**

For the Ona mine, "groundwater modeling results" are used to indicate that the maximum drawdown of the two new mines would be four and six feet and that the relative zones of influence on the Florida Aquifer System would be localized. No effect is predicted for areas prone to salt water intrusion.

Manatee County is prone to salt water intrusion and we do not find this modeling to be convincing.

ES 6.2.2, p. 26
In another example, runoff volume is minimized, projected reductions for each mine – "drawn from review of the mine plans."

ES 7.1 Ecological Resources

**Despite many requests before the AEIS draft was issued, the study did not look at whether reclamation works.**

The proposed four mines include jurisdictional wetlands of high quality and nowhere in the AEIS are reclamation sites analyzed or studies cited that demonstrate poor reclamation results.

Before recommending denial of Mosaic's application to mine the Altman tract, in 2008, when Manatee County staff visited sites designated as examples of reclamation they found, "The existing herbaceous marsh reclamation areas exhibited high vegetative cover, but had very low diversity, poor zonation, and little wildlife utilization. The existing Bay Swamp contained large bay trees that had been cut to stumps and transplanted to the reclamation area. These relocated trees were in very poor condition. In addition, upland reclamation areas adjacent to the reclaimed wetland areas were either very immature or had yet to be reclaimed."

Kevin Erwin, ecologist, testified before the Manatee County Commission in February, 2008, that he had evaluated and reviewed several Mosaic wetland reclamation sites and noted when wetland functions are not restored, reclamation fails. He said, **"Mosaic has not demonstrated successful restoration of phosphate mined wetland or upland habitat as found in a natural landscape similar to the Altman tract." He indicated that meeting FDEP permit success criteria is not the equivalent of restoring a fully functional wetland.**

The AEIS says that wetlands are "proposed to be mitigated" using the "state's reclamation requirements" as if their functions can be replaced. Evidence indicates this will not be the case. Wetlands can not be created in eight years and some types of forested wetlands will take decades. Frequent variances granted by DEP allow delays for another ten to twenty years. **Reclamation to date has been unsuccessful in restoring the nature and function of most Florida native wetland types.** In Manatee County only 300 of 13,000 mined acres have been reclaimed and released. The State Reclamation Report for 2010 also shows that Mosaic is not up to date in its reclamation for two mines. Consideration should be given to not giving permits until mined land is reclaimed and released.

ES 7.2
Throughout the AEIS, the effect of Mosaic's water drawdown of the Floridan Aquifer System is proposed to be limited by SWFWMD's plans to require agricultural use to be reduced by 2025. This plan is based on conjecture, is a very tenuous basis for allowing new strip mining and would not likely be the public's choice for water allocation.

ES 7.3
Horse Creek is predicted to have a decreased water flow of 16%. This seems large but the AEIS minimizes these impacts and cumulative decreased flow to the Charlotte Harbor National Estuary is not analyzed.

Purpose and Need
1.1.3.1

**The history of mining does not mention industry bankruptcies or catastrophic spills** including the massive Piney Point discharges into Tampa Bay, with clean-up costs close to 200 million, paid for by Florida taxpayers. This site continues to cause environmental problems. During the breach at Mosaic's phosphogypsum stack on Archie Creek approximately 65 million gallons of acidic process water were discharged from the stack and reached Hillsborough Bay.

Chapter 2
The selection and analysis of numerous alternative parcels seems to be a pointless exercise. Are the actual proposed mine sites themselves evaluated using the same criteria: wetlands, hydric soils, Florida Forever, FEMA, 1000 yr. flood plain, Integrated Habitat Network? Consultant time would be better spent documenting the environmental features of the proposed sites and finding less damaging alternatives.

2.2.5.2
This brief section concludes, "Avoiding use of phosphate fertilizer – "would not meet the project purpose and need." It is apparent here and throughout the AEIS that **the company's need to mine is the overriding purpose, not avoiding adverse impacts to waters of the U.S.**

2.2.5.3 Importing
Despite the experience of importing phosphate rock when the South Ft. Meade mine was stopped, the study contradicts itself and concludes that it "Would not be reasonable for the applicant to mine and import." **Importing phosphate is not given the serious consideration that it warrants.**

Chapter 3 – Affected Environment

3-67

The research by Bacchus et al 2011 regarding the effect of mining on groundwater and wetlands, hydrologically connected because of karst, should be addressed by the AEIS.
The AEIS says there is disagreement about how much impacts are associated solely with phosphate mining. This dismissal is used throughout the study when urban effects and agriculture are held responsible for water use. It is revealing that the industry expert Garlander can state unequivocally that mining contributed less than 10% of the drawdown of Kissinger Spring. The vanishing of this spring is attributed to the long-term deficit in rainfall from the 60s to the 90s.
Earlier, for different purposes, the study states "Over the last century there has been no significant change in annual rainfall."

3.3.6 Wildlife and Protected Habitats
The AEIS includes mention of Listed Species but does not include research to indicate that wildlife populations will survive undiminished despite mention that egrets like clay settling ponds. Bird studies are said to show similar totals for mined and unmined sites but twenty-eight species are "notably less present at mined areas." Studies are cited "as reclamation sites mature over time" but the neither the studies or sites are identified. The number of reptile species are reported to be positively correlated with the maturation of the site but the amphibian richness not found to be positively correlated. Durbin et al. (2008)
**The study says, "It takes time for such areas to support wildlife communities resembling those of unmined." Critical listed species do not have time to recover from the displacement and destruction that mining causes.**

3.3.7 The Human Environment
The AEIS states, "Mining could cause or contribute to water and air pollution." But none is documented and we know it exists.

Table 3-16
The table reports that 70% percent of Manatee County is within the CFPD. This must be inaccurate.

Footnotes don't begin until Section 3, page 140 and are certainly needed for many statements throughout the AEIS.

There is a footnote for an email exchange – are these valid stats?

3.3.7.6
Residents of Manatee County are very concerned that we are the most impacted area in the Southern Water Use Caution Area. The SWUCA Recovery Strategy includes capping of water allocations at 650 mgd for all users, with reductions to 600 by 2025. The use of 50 mgd by the phosphate industry is unwarranted in this environment.

3-153
The AEIS minimizes environmental damage caused directly by mining, for example, referring to catastrophic dam failures which "have been reported to have caused significant pollutant releases." The study reports that there have been "No catastrophic failures since '94; what about Piney Point and Archie Creek?

4.3 Ecological Resources
The study says that 30% of the land in the four proposed mine areas consists of land designated by the state for potential conservation as part of the Integrated Habitat Network. And then states that it is unlikely that the state will have the funds to acquire this land so it will remain in current uses. This is not a valid rationale for allowing mining to disrupt these sites.

4.3.2.3
4-39

The Wingate East tract was formerly known as the Texaco tract. According to the AEIS, the 774 acres of wetlands there include wetlands of high quality; 52% of the site has high aggregate CLIP ratings. Despite this, 500 acres of the area was separated, against the stated purposes of the AEIS, and submitted for approval to Manatee County. 50 acres of wetlands on this part are designated Priority 1 according to CLIP ratings on your map. A significant portion of the wetlands remaining are to be held in escrow according to agreements made with Manatee County when the Altman tract was approved, a reversed decision by the Manatee Commission after a suit by Mosaic.

4.4 Groundwater Resources
This section projects a population increase in the area of the proposed mines to 4 million from 3.3 million and suggests that existing phosphate mining water allocations would likely be sought by other users given the no action, non-approval alternative. This is unlikely in the current economic environment and given the rural and agricultural nature of the area.

4-70
SWFWMD has established a Saltwater Intrusion Minimum Aquifer Level, SWIMAL. This information is not developed and the decrease in water use if phosphate mining were not expanded is minimized.

4.6.2 Effects, Water Quality
**Throughout the AEIS, the phosphate industry's plans are embraced before they are actually in effect –** "proposed technologies can be expected to be the same or better than existing." Discharges are only said to occur with significant rainfall accumulations but Florida has plenty of those.

No hard data is given for the Horse Creek Stewardship Program and the AEIS reports that "variations did not appear to be related to phosphate mining discharges." And "fish community species richness and diversity is not viewed as related to mining activity."

Phosphate company employees praise the Horse Creek Stewardship Program as a monitoring program that would serve as an alert for any changes in water quality that occur because of phosphate mining. At a conference sponsored by Gulf Coast University, Bill Dunson, Ph.D. presented a critique of this monitoring program, "Designing a Water Quality Monitoring Program A Critique of Horse Creek." Dr. Dunson was a biology professor at Penn State until 1997, has a B.S. from Yale and a Ph.D. from the University of Michigan. He now lives in Englewood and is a recognized expert on the ecological impacts of fresh water withdrawals from the Peace River on Charlotte Harbor.

In his research, Dr. Dunson studied levels of pollutants in six Florida rivers, using St. Mary's as a control (it is relatively pure) and including Horse Creek which has lower pollution levels than Payne Creek, a tributary of the Peace near Arcadia and the Alafia. Dr. Dunson found that the IMC/Mosaic monitoring program set the trigger levels for pollutants in Horse Creek so high that Mosaic "won't have to worry about setting off any alarms." For example, the level set for specific conductants in the Creek is 1275 ms/cm when the most heavily polluted of the five rivers Dunson analyzed had a level of only 400. Similarly elevated triggers are set for floride, the best indicator of mining, and many other pollutants. Dr. Dunson's presentation is available online and I urge that the AEIS consider more of his analysis at
http://itech.fgcu.edu/faculty/ndemers/Miningconference/mcindex.htm.
Dunson maintains that the Horse Creek Stewardship Program will be used as a model for all future mines and demonstrates clearly that the trigger levels of the pollutants need to be reset with unbiased scientific data.

Table 4-27
4-117
Where there is documentation of impairment, as in Wingate Creek, the study says "There may be short-term invertebrate community response to high rate of mine discharge. Re-colonization may effect rapid recovery."

"There is no definitive indication of phosphate mine related indirect water quality impacts on aquatic communities." **The numbers here of 600 conductance identify impaired waters but this is dismissed.**

4-158
Buffers of 1500, 3000 and 6000 feet are introduced briefly but not considered seriously in the AEIS. The maps show how much of the sites would be avoided as in Wingate East where wetlands are of high quality, "reductions in mineable area would be substantive." The illustrations show how much of each site should not be mined. **CLIP priority area and stream buffers would preserve valuable ecosystems and streams and should be incorporated in permitting.**

4.11.12.1 Phosphogypsum Overview
This very brief mention does not realistically document the problem of these permanent toxic waste sites which are estimated to cover 3,200 acres.

4.12.3.2 Aquatic Resources
This statement is untrue but indicative of the invalid, industry fed assumptions upon which the AEIS is based: "Current mine operations have demonstrated in many ways a return of native habitats to former conditions."

Throughout the AEIS, the evidence for the conclusions that the cumulative effects of the four new mines will be small is not credible because the study relies on industry modeling and documents provided by the industry. When problems such as pollution, drawdown or salinity are mentioned, other causes such as agriculture or rainfall levels are targeted. We find the AEIS draft of little value in planning for a healthy environment in central Florida.

Sincerely,

Sandra Ripberger
7412 Riverview Drive
Bradenton, FL 34209
941-794-3878
sandrarip@yahoo.com

Submission number 282

John Fellows
AEIS Project Manager
US Army Corps of Engineers
10117 Princess Palm Avenue
Tampa, FL 33610-8302

July 25, 2012

Dear Mr. Fellows,

I am sending you these comments concerning the draft AEIS covering the application of 4 phosphate mines in SW Florida. I attended the Corps presentation of the draft version of the AEIS in Punta Gorda on June 20. My concerns about the water supply to North Port, Florida were not addressed, so I am writing you about it.

The proposed site of the Desoto Mine (aka the Keys Mine, or the extension of the Pine Level Mine) is directly over the Big Slough Watershed. This watershed is like a big sponge that retains water in wet or drought periods. One of the creeks that originate from this watershed is the Myakkahatchee Creek. This creek is the primary drinking water source for the city of North Port, In the draft AEIS, there was no mention of the impacts to the Myakkahatchee, even thought the Keys mine is situated directly on its source.

This is important, because although the Myakkahachee may be just a trickle, it's a steady one. In wet times or drought periods, the creek delivers a steady flow to the city of North Port, a community of about 100,000 people.

The phosphate mining interests have averred that, although there might be a loss of underground water pressure temporarily during the excavation of the Keys Mine, eventually the water table will return to its former capacity. That may be true, but the Myakkahatchee is little more than a seep, and it may not recover at all from this impact. If so, North Port will see its primary water source dry up overnight. In that event, North Port would have to import drinking water from nearby Charlotte or Sarasota Counties at a higher rate.

When I read the draft AEIS, I saw nothing about how Mosaic would deal with adverse environmental impacts. Their assumption is that there would be none, so there was no mention of how any would be handled. It's for this reason that I want to see the following policies be adopted into the draft AEIS:

(1) that the mining shall stop operations until the water table recovers and the Myakkahatchee resumes its flow. If this doesn't happen, then

(2) Mosaic must reimburse the City of North Port for the added expense of importing water at a higher rate to its users.

If this sounds familiar, it's the way that BP Oil responded to the Gulf states following the Horizon deep well disaster. The company took responsibility for its operation and the damage

it caused. Mosaic should not have a problem with this. They have stated many times that they have the safest operation in Florida and they are an asset to the communities where they mine.

There must be included in the draft AEIS a policy of how the company intends to deal with mishaps and water supply problems, even if they never occur..

Sincerely,

M.A. Hale
5327 Densaw Road
North Port, FL 34287
(941) 423-2713
Allainhale@hotmail.com

Submission Postcards
(numbers 283 through 347)

## Doe Branch Prairie

*Postcard images courtesy of Florida naturalist and water quality expert John Kiefer, PE, PhD.*

*Photographed at CF Industries' Hardee County (Florida) South Pasture reclamation site. Post-mining, Fall 2010.*

CFIndustries

Phosphate Operations
Helping Farmers Feed a Hungry World

6209 N. County Road 663 ▪ Bowling Green, FL 33834
▪ 863-375-4321 ▪ www.cfindustries.com

283

Dear ACOE,

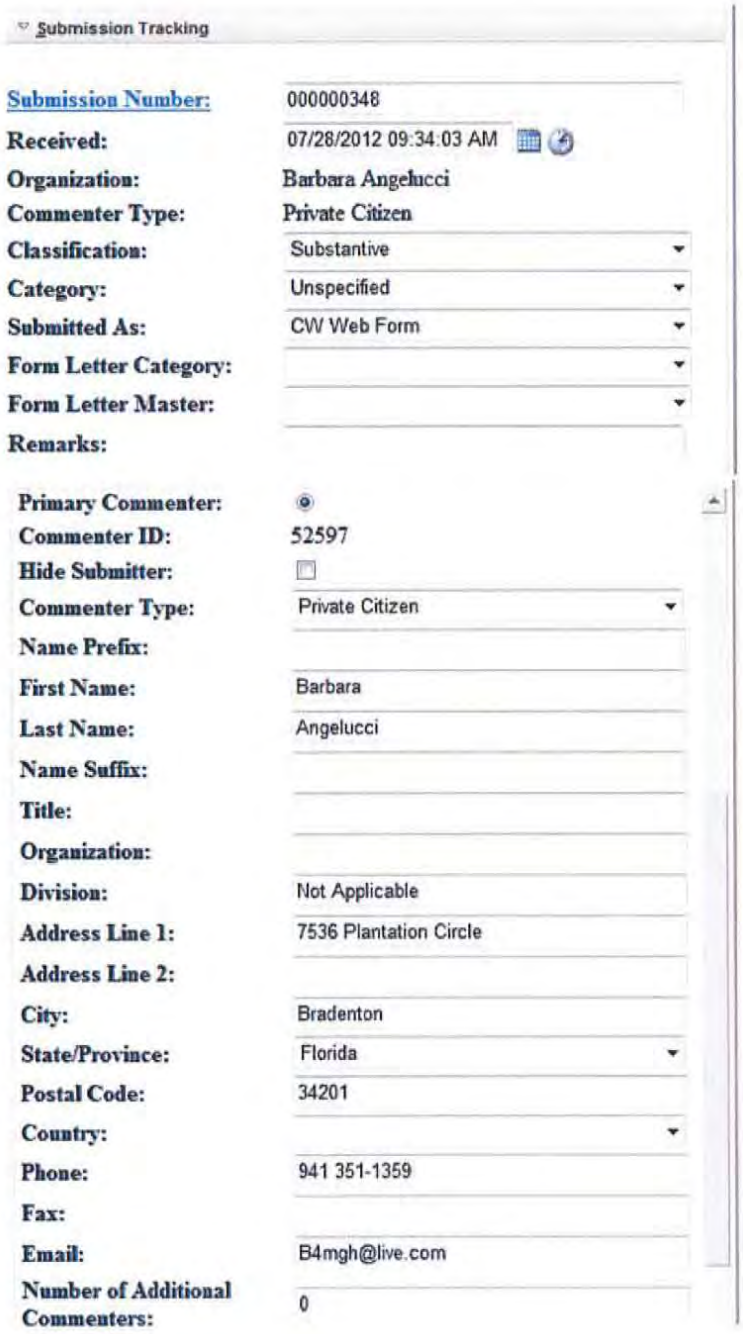
I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that **no future limitations** on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides.

I urge the ACOE to approve the projects as proposed by the applicants.

Name: Salvador Garcia
Address: Eight Ave 901

I AM A CF INDUSTRIES EMPLOYEE, CONTRACTOR or FAMILY MEMBER

Submission number 348



Submission Tracking

| | |
|---|---|
| Submission Number: | 000000348 |
| Received: | 07/28/2012 09:34:03 AM |
| Organization: | Barbara Angelucci |
| Commenter Type: | Private Citizen |
| Classification: | Substantive |
| Category: | Unspecified |
| Submitted As: | CW Web Form |
| Form Letter Category: | |
| Form Letter Master: | |
| Remarks: | |
| Primary Commenter: | |
| Commenter ID: | 52597 |
| Hide Submitter: | |
| Commenter Type: | Private Citizen |
| Name Prefix: | |
| First Name: | Barbara |
| Last Name: | Angelucci |
| Name Suffix: | |
| Title: | |
| Organization: | |
| Division: | Not Applicable |
| Address Line 1: | 7536 Plantation Circle |
| Address Line 2: | |
| City: | Bradenton |
| State/Province: | Florida |
| Postal Code: | 34201 |
| Country: | |
| Phone: | 941 351-1359 |
| Fax: | |
| Email: | B4mgh@live.com |
| Number of Additional Commenters: | 0 |

Chapter 1 - Project Purpose and Need

1.3 Proposed Action 1-16

The ACOE is relying on a consulting firm that had and will continue to have dealings with Mosaic. The ACOE also received instructions from Mosaic detailing instructions for the preparation of the AEIS. It is evident that Mosaic is paying for a study that will steer away from area wide mining activity, limit cumulative impacts discussion, not discuss plants, gypstacks, or radiation, use old existing information, and 'rush' the process through. A valid AEIS must include these issues as they are cumulative impacts.

Also the preparation of the Draft was far too rushed a process – need for a longer time period.

There was insufficient and highly incomplete information. New information must be generated, e.g., a new study on stream flows comparing stream flow generating capabilities of different areas of the unmined basin to those of reclaimed basin, i.e., compare the amount of stream flow from an unmined basin and a reclaimed basin. **New data is necessary with the increased mining activities.**

Charlotte Harbor Water Atlas: www.chnep.wateratlas.usf.edu
**shows evidence of impairment in the upper Myakka River**. Both the Wingate East Extension and Wingate East mine discharges will flow through creeks into the Myakka.

LIDAR must be used as a tool for monitoring water flows and not what was recommended by Mosaic or ACOE.

**T he legal definition of an AEIS is that it covers cumulative impacts. The AEIS must start with current studies undertaken while the Draft was being prepared, or have them done, and work backward to capture all cumulative impacts.**

1.5 Permit Actions Required - 1-26
The long-term duration of permits is not acceptable. 40 years is a major problem as there are many unknowns to allow for mines with 40 years. A term of 2 – 5 or 10 years needs to be adopted. Because of the continuing number of variances granted Mosaic, a majority of permits are already 20 or 30 years. Florida already has thousands of unreclaimed acres that may never be reclaimed. There needs to be severe time limits on permits.

1.8 Public Involvement 1-30
Public Interest Review must be done by the ACOE as it relates to all environmental issues that affect humans and health. It is imperative that the ACOE do this critical review.

Chapter 3 - Affected Environment

3.3 Key Natural and Human Resources of Concern 3-11

Radiation

In 2011 the EPA had begun aerial surveys of former phosphate mines in central Florida where it fears tens of thousands of people may be exposed to dangerous levels of radiation. Approximately 10 square miles of former phosphate mining lands near Lakeland, FL., are at issue. There has been opposition to this by some member of Congress as well as Mosaic. Information found on: Inside the EPA, EPA Sets Stage For Massive Cleanup Of Homes On Radioactive Mine Sites, 2/7/11 Superfund Report.

Radiation must be checked and answers given regarding radioactivity on mining sites and unreclaimed/reclaimed, but not released land. **Until this is done there should be a moratorium on mining. A radiation determination must be a part of the AEIS.** We don't want any more superfund sites and their related costs to the Government and taxpayers,

while phosphate mining companies continue to reap profits and our natural resource.

Chapter 4 - Environmental Consequences

4.4 Groundwater 4-63

There is an Administrative Hearing underway against Mosaic Mega Water Permit and SWFWMD, Case Number 12-001043.
Some of the issues are related to usage of groundwater pumping for closed plants, and from wells on 300 acres that Mosaic does not legally own, to additional dilution of wastewater discharges – violation of Clean Water Act, which the EPA has previously issued Consent Orders on.

The ACOE should wait until this case is decided by an Administrative Judge before any Final AEIS is complete.

4.6 Water Quality 4-103

NEPA is a procedural statue requiring agencies to 1) examine environmental impacts by identifying and evaluating adverse environmental effects of a proposed action and 2) broadly disseminate relevant environmental information for public comment so that the general public may actively participate in the decision-making process.

NEPA requires the Corps to consider the direct and indirect effects of its actions, and the cumulative impacts of past, present and reasonably foreseeable future actions on the environment. 40 C.F.R. &&1508.25©. Also, NEPA requires the Corps to use "accurate scientific analysis" and "high quality" information in analyzing a proposed action, 40 C.F.R.

The Administrative Hearing on Mosaic's mega water permit must be heard as part of the Draft AEIS as it pertains to wastewater discharges, questionable illegal pumping, and leaks from gypstacks which all have past, present and foreseeable future cumulative impacts on the environment. The ACOE must go back in time and then move forward if this AEIS is to be done properly and legally.

4.7 Economic Resources 4-124

The economics used in the AEIS draft by the ACOE and Mosaic are flawed. EPA appropriate methodology must be used.

4.12 - 4-163

Included in the AEIS must be the chemical plants, closed as well as open and phosphogypsum stacks, closed as well as open. The reason for this is that buried within the FDEP Oculus website are EPA Consent Orders against Mosaic facilities listed below regarding discharge of waste waters which are **cumulative impacts** which the AEIS is all about.

The importance of looking at beneficiation/chemical plants and gypstacks is illustrated with the Sweet Creek Chemical Phosphate Plant in November 2009. A sinkhole 50 feet across under a gypstack was leaking into the aquifer for 15 months. It was necessary to drill horizontally and took 2 months to get pictures of leak. Piney Point is another example which 'keeps on giving' leaks, etc. While the ACOE does not regulate the plants or gypstacks, it should be in the AEIS as it is a **continuous cumulative impact.**

Some closed chemical/beneficiation plants and gyp stacks are still using water for dilution of waste water and the

intention is to do that for years to come, e.g., 55 year contract with FDEP/State for Mulberry Plant.

The Nichols and Greenbay plants have 20 years each to discharge.

CF Industries had a Consent Order and fine from the EPA on discharges from their Zephyr Hills operating plant with closed gypstack.

These situations have long-term impacts on ground and surface water and must be included in the AEIS study.

FDEP Oculus website EPA Consent Orders on Mosaic Facility ID Numbers:

New Wales FLD084717545
Green Bay FLD043055003
South Pierce FLD092980150
Bartow Concentrates FLD003952033

(http://dwmedms.dep.state.fl.us/Oculus/servlet/login?action=login)

The FDEP is responsible for bringing this to the attention of the ACOE and requesting that discharges, etc. be a part of the AEIS. The impacts are cumulative and continuous. No study can be done without looking at these issues.

The contact is listed below for further information.

Bethany Russell, Physical Scientist
Office of Enforcement and Compliance Assurance
Waste and Chemical Enforcement Division
Ariel Rios South (2249A), Room 4146B
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Cell: 770-265-1038

Submission number 349

US Army Corps of Engineers
Jacksonville District

# AREAWIDE ENVIRONMENTAL IMPACT STATEMENT
ON PHOSPHATE MINING IN THE CENTRAL FLORIDA PHOSPHATE DISTRICT

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**Public Comment Form**

**Public Meetings:**
June 19, 2012 – Lakeland
June 21, 2012 – Punta Gorda

The USACE is engaging the public during this formal opportunity for public participation under NEPA, during which input is being solicited from the public regarding the Draft AEIS. The formal comment period runs for 45 days, from the June 1, 2012, publication of the Notice of Availability in the Federal Register until July 16, 2012. Comments may be provided using the electronic form on the website, by e-mail to teamaeis@phosphateaeis.org, or via other standard mail or commercial delivery services to the following address:

Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

This paper comment form is provided to facilitate your submittal of comments regarding the Draft AEIS should you prefer not to use one of the electronic options. Please provide the identification information below, and for your comments, it will help us most if you can be specific with your comments by referencing a specific chapter and subsection (or topic), and if applicable reference a page number and/or line number.

Please note that any information (including personal identifying information) received through this form may be made available to the public online or in a paper docket, unless the comment includes information whose disclosure is restricted by statute. Do not submit any information that you do not want released to the public. Electronic files should avoid the use of special characters or any form of encryption, and should be free of any defects or viruses.

**Your Information:**

First Name: Robert Last Name: FELLMAN
Title or Position: Retired Environmental Engineer
Address*: 432 Altair Road
City: Venice State: Florida
Postal Code: 34293
Email: RTF082446@Hotmail.com
Phone: (941) 445-5763 Fax: ( ) - N/A

Opt Out: ☐ By checking this box, you are requesting that your personal information NOT be included in any public release of comments.

**Commenter Type:**

- ☒ Private Citizen
- ☐ Academia
- ☐ Community Organization
- ☐ Environmental Organization
- ☐ Law Firm (representing itself)
- ☐ Professional Association
- ☐ Union
- ☐ Non-profit Organization
- ☐ Company
- ☐ Tribal Government
- ☐ Federal Agency
- ☐ Stage Agency
- ☐ Regional Agency
- ☐ County Government
- ☐ Municipal Government
- ☐ Taxing District/Water Control or Communities
- ☐ Federal, State, County, or City Elected Official
- ☐ Media
- ☐ Other: _____
- ☐ Undetermined Organization
- ☐ Anonymous

**Select the chapter or appendix you wish to comment on:**

- O General
- O Chapter 1 – Project Purpose and Need
- O Chapter 2 - Alternatives
- O Chapter 3– Affected Environment
- O Chapter 4 – Environmental Consequences
- O Chapter 5 - Mitigation
- O Chapter 6 – Compliance with Environmental Requirements
- O Chapter 7 - References
- O Chapter 8 – List of Preparers
- O Chapter 9 – Distribution List
- O Chapter 10 - Glossary
- O Chapter 11 – Index
- D Appendix A- Site Aerials
- O Appendix B -Water Quality Evaluations
- O Appendix C – Ecological Characterizations
- O Appendix D – Groundwater Modeling
- D Appendix E – Surface Water Analysis
- O Appendix F – Economic Analysis

**Please enter specific comment(s) aligned with the chapter or appendix indicated above.**

| **Draft AEIS Chapter, Section, or Appendix (page/line number)** | **Write your comments in this column.** |
|---|---|
| Fellman Comment # 1<br>Doc Ref = Appendix F<br>Page = 23<br>Line = N/A | Issue: "EcoNorthest. 2011", **Error**<br>Comment:<br>Should that reference be "EcoNorthwest. 2011" ? |
| Fellman Comment # 2<br>Doc Ref = Appendix F<br>Page = 8<br>Line = N/A | Issue: AEIS states: "40% of the reclaimed land within 8 years of reclamation." **Arbitrary assumption.**<br>Comment:<br>Is the use of 8 years based on the experience that has been observed in Central Florida where reclaimed phosphate mining lands have returned to other uses? If not, the assumption is merely arbitrary. On what is this assumption based? |
| Fellman Comment # 3<br>Doc Ref = Appendix F<br>Page = 8<br>Line = N/A | Issue: "Revenue per tonne of phosphate at $67.11." **Effect of price reductions not explained.**<br>Comment:<br>The USGS reports that there are enormous phosphate resources in Morocco and elsewhere in Africa. What is the projected future price of phosphate? What are the consequences for the economic analyses if the price falls significantly below $67.11? |
| Fellman Comment # 4<br>Doc Ref = Appendix F<br>Page = 8<br>Line = N/A | Issue: "Revenue per tonne of phosphate at $67.11." **How is this used?**<br>Comment:<br>Appendix F cites this "revenue per ton" figure but does not explain how this figure is used or even if the figure is used to develop any of the presentations attached to Appendix F as separate appendices. |
| Fellman Comment # 5<br>Doc Ref = Executive Summary and Appendix F<br>Page = Various<br>Line = Various | Issue: **Capacities of alternative minable areas. Apparent inconsistencies.**<br>Comment:<br>The Executive Summary states that Desoto, Ona, Wingate East and South Pasture can be associated with production rates of 6,6, 1.3 and 3.5 mt per year. These production rates do not agree with those used as a basis for the economic analysis in Appendix F where lower rock production rates are used. The production capacities presented on the executive summary should reflect the realistic, lower rates for rock production given the need for set-backs, buffers, access roads etc, that is, in areas that cannot be mined. |
| Fellman Comment # 6<br>Doc Ref = Executive Summary<br>Page = 13<br>Line = 7 through 9 | Issue: AEIS states: "Issues that had comparable risks of environmental consequences across all alternatives and did not provide a means of differentiating the relative merits of the alternatives were afforded only brief examination under the AEIS. These issues categories included air quality and meteorology, geology and soils, topography, land use, aesthetics, transportation, and energy needs." **Arbitrary dismissal of important issues.**<br>Comment:<br>This statement ignores the relative advantages that the No - Action Alternative provides when compared to all of the other alternatives regarding air quality. What this does, especially in respect of the economic analysis where the beneficiation plants are included to the extent of $1.0 B, is that it dramatically skews the economic analysis to favor virtually any mining alternative without providing any comparative trade-offs. It also removes from discussion any mention of the airborne emissions, emissions of radioactive materials, noise |

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| | etc from entering the dialog. This is a major oversight that must be addressed. |
| Fellman Comment # 7<br>Doc Ref = Executive Summary and Appendix F<br>Page = Ex Summary Page 35, Appendix F page 8<br>Line = Various, line 12- 15 in Exec Summary | Issue: Appendix F states: "The cost of constructing a new beneficiation plant was estimated at $1 Billion and will be constructed over a 10-year period. **Inconsistent presentation of beneficiation plants.**<br>Exec Summary states "The table also shows $200 million in average annual expenditures for construction of 2 beneficiation plants (for the Ona and Desoto Mines) during the first decade of the analysis."<br>Comment:<br>There appears to be an inconsistency between Appendix F and the Executive Summary. Are there two beneficiation plants and is the total cost $2.0 B as suggested in Table ES-13? Or is there one plant whose cost is $1.0B as suggested in Appendix F? Have both of these plants been taken into account in the Appendix F analysis? |
| Fellman Comment # 8<br>Doc Ref = Appendix F, Table 3, Executive Summary, Table ES -2<br>Page = Ex Summary Page 10, Appendix F page 4<br>Line = Various | Issue: In Appendix F, Table 3 the figures for the total acres differs from the figures for the same acreages presented in the Ex. Sum. in Table ES-2. **Inconsistencies in mineable acreages.**<br>Comment:<br>Consistency among the documents is needed. The problem here is that in Appendix F, Table 3 for the Wingate East mine, the analysis for the "Total Mined" area is given as 3616 acres. This is not possible if the figure for the same acreage for Wingate East presented in Table ES-2, that is, 3635 acres is correct as it implies that there are virtually no setbacks or undisturbed areas within Wingate East. This needs to be fixed. |
| Fellman Comment # 9<br>Doc Ref = Executive Summary, Section E5.1<br>Page = 5<br>Line = 10 through 13 | Issue: "However, for the evaluations under this AEIS, the simplifying assumption applied was that the No Action Alternative meant no new mining projects of the scale currently proposed by the Applicants would be approved during the planning horizon analyzed (through 13 2060)." **Inconsistency with testimony presented before Manatee County Commissioners.**<br>Comment:<br>In March 2012, Mosaic was given approval by the Manatee County Commissioners to mine an approximately 661 acre extension to the Wingate Mine. According to testimony presented at the Jan 12, 2012 hearing before the Manatee County Planning Committee, Mosaic claimed that (roughly) 661 acres would be mined in the extension. Since this is new production not likely to be mined until 2014, this production should be included in the production baseline value for the No Action Alternative that is described in the Executive Summary.<br>The production for the Wingate extension (ie the 661 acres approved for mining in March 2012) ***is*** presented in Appendix F. Therefore, the executive summary needs to be made consistent with Appendix F. |
| Fellman Comment # 10<br>Doc Ref: AEIS. Section 1.2, Project Purpose and Need | Issue: NEPA and the USACE NEPA implementing regulations require consideration of a range of reasonable alternatives, including a No Action Alternative and the Applicants' preferred alternative. **Inadequate presentation of an Importation Alternative.**<br>Comment:<br>Please see attached comment # 10 on three sheets. |
| Fellman Comment # 11<br>Doc Ref = Executive Summary, Section ES 5<br>Page = 4<br>Line = 11 through 12 | Issue: NEPA and the USACE NEPA implementing regulations require consideration of a range of reasonable alternatives, including a No Action Alternative and the Applicants' preferred alternative. **Problems with the No-Action Alternative.**<br>Comment:<br>There does not appear to be a sound argument for the expansion of the Florida-based phosphate mining operations based on the need for the phosphate feedstock. According the USGS (See USGS October 2011, "2010 Minerals Yearbook, Phosphate Rock (Advance Release)", US Geological Survey, US Dept of the Interior.) , "World phosphate rock annual production capacity was projected to increase 26% from 2010 to 2015, increasing from 203 Mt (million tons) to 256 Mt, with more than 50% of the increase from Africa." |

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| Fellman Comment # 12<br>Doc Ref = 4.11 Issues Which Are Not Significant or Have Been Covered by Prior Environmental Review<br>Page = 4-103<br>Line = 33 through 35 | Issue: AEIS maintains: "Radiological parameters (gross alpha and radium 226) also can be elevated in such waters because of the liberation of these constituents from the excavated matrix during slurry conveyance and beneficiation." **Inadequate consideration of radioactivity due to mining.**<br>Comment:<br>The AEIS in Section 4.11, page 4-103 acknowledges that "gross alpha" and Radium 226 are present. The "stacks" of accumulated beneficiation waste are potential sources of radon. This should be analyzed. While this may not be a differentiating factor among the mining alternatives, clearly added releases will occur compared to the No-Action Alternative. |
| Fellman Comment # 13<br>Doc Ref = 4.11 Issues Which Are Not Significant or Have Been Covered by Prior Environmental Review<br>Page = 4-165<br>Line = 22 through 25 | Issue:<br>At section ,4.11.5 Air Quality, the AEIS states: "No significant impacts are expected to occur to air quality that would result from mining within any of the potential locations. Equipment used in land clearing and preparation, and routine vehicular traffic on and around these proposed mine projects would contribute to fuel-burning emissions, but the effects would be small in spatial extent and not stationary." **Poor coverage of AQ impacts.**<br>Comment:<br>How can this be credible? There are planned for the alternatives two beneficiation plants, both of which must be associated with at least some air emissions. Not mentioning these is a serious act of omission. |
| Fellman Comment # 14<br>Doc Ref = Appendix F<br>Section 3.0 Assumptions<br>Page = Page 8<br>Line = Various | Issue: Within the assumptions presented in Section 3.0 there is nothing concerning the externality value of wetlands. **Real economic value of wetlands ignored.**<br>Comment: In the Executive Summary there are references to the acreage of wetlands that will be affected as a result of the mining activities. The economic analysis in Appendix F does not assume any loss value for either the wetlands totally lost or for the wetlands that are taken out of service for a time. This omission means that the wetlands' environmental externality values are ignored.<br>There is an extensive literature concerning ways to attach dollar values to productive wetlands, thereby attaching a specific economic value to the externality associated with their beneficial service. The result of this omission is that the No-Action Alternative, where the wetlands remain intact, is penalized compared to the mining alternatives where wetland disturbance comes free.<br>See also comment #22. |
| Fellman Comment # 15<br>Doc Ref = Appendix F<br>Section 3.0 Assumptions<br>Page = Page 9<br>Line = Line 6 | Issue: "The value of 7.10 tonnes per acre was used for existing mines...." **Error.**<br>Comment: The correct value according to Table 5 is 7100 tonnes/acre. |
| Fellman Comment # 16<br>Doc Ref = Appendix F<br>Section 7.0 - Work Cited<br>Page = Page 23<br>Line = Entire Section | Issue: **General Quality Comment**<br>Comment: Have any of your editors reviewed this section to assure that the references indicated have actually been cited? There appear to be errors, for example, references that are not cited in the text but are listed here ; references that are cited in the text but not listed here. Two example errors are indicated below. |
| Fellman Comment # 17<br>Doc Ref = Appendix F<br>Section 3.0 Assumptions<br>Page = Page 9<br>Line = 10 | Issue: Reference "(FDEP, 2008)" **Reference omission**<br>Comment: In Section 7.0 Work Cited, there is no "FDEP, 2008" |
| Fellman Comment # 18<br>Doc Ref = Appendix F<br>Section 3.0 - Assumptions<br>Page = Page 10<br>Line = 9 | Issue: Reference "(U.S. Census Bureau, 2008)" **Reference omission**<br>Comment: In Section 7.0 Work Cited, there is no "(U.S. Census Bureau, 2008)" |

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|---|---|
| Fellman Comment # 19<br>Doc Ref = Appendix F<br>Section 2.0 Economic Analysis Methodology<br>Page = Page 5<br>Line = N/A | Issue: Labor Income or Compensation -- Wages and Salaries, employer and employee contributions to social security. **Basis for the labor compensation levels.**<br>Comment: Does it make sense for the social security contributions to be included in the labor income? These dollars are not necessarily spent in the counties. To include them overstates the labor income that drives the indirect and induced effects in the analysis. |
| Fellman Comment # 20<br>Doc Ref = Appendix F, then Appendices A and B thereto.<br>Page = N/A Line = N/A | Issue: **Impact Type: Labor Income – Extremely high value**<br>Comment<br>It appears that the jobs associated with mining operations covered within this study are compensated at a yearly rate of in excess of $100,000/year. Even including social security (employee as well as employer) benefits, these rates seem extreme.<br>Mr. Bob Whalen, a Director and economist at EcoNorthwest, testified at a Manatee County Planning Commission meeting on Jan 12, 2012. The meeting dealt with the review by the Planning Commission of an application by Mosaic to rezone the area known as the Wingate Extension. He stated at that meeting that the jobs that would be coming to the county as a result of mining on the Wingate extension were compensated at about $59,000/year as opposed to the Manatee County average of about $38,000/year. The $59,000/year seems high, but Appendix F uses rates that are nearly twice that.<br>Use of these high rates simply biases the economic analysis toward the mining alternatives and away from the No-action Alternative. |
| Fellman Comment # 21<br>Doc Ref = Appendix F<br>Section 3.0 Assumptions<br>Page = N/A<br>Line = N/A | Issue: **Omission of property value loss to economic analysis.**<br>Comment:<br>There is nothing in Appendix F discussing the loss to residential property values as a result of proximate location to the mines. There is no map of surrounding communities and residences and there is not even a qualitative discussion of the potential for loss of property values due near-by mining activities. This kind of consequence is self-evident. Its omission from Appendix is a glaring lapse that compromises the credibility of the document.<br>At the Manatee County meeting of Commissioners on February 2, 2012, where a zoning application for the Wingate Extension was discussed and public comment was entered into the record, testimony presented at the meeting stated that residents adjacent to the proposed extension saw the value of their property significantly diminished. Appendix F is deficient in ignoring this consequence of mining. |
| Fellman Comment # 22<br>Doc Ref = Appendix F<br>Section 3.0 Assumptions<br>Page = Page 8<br>Line = Various | Issue: **Externality Value for Wetlands. (See also Comment #14)**<br>Comment:<br>Need references to provide values for the externality values for Wetlands.<br>Here is one – there are others<br>Wetlands and Agriculture: Private Interests and Public Benefits,<br>Ralph E. Heimlich, Keith D. Wiebe, Roger Claassen, Dwight Gadsby, and Robert M. House, Agricultural Economics Report No. (AER765) 104 pp, September 1998 |
| Fellman Comment #23:<br>AEIS. Section 1.2, Project Purpose and Need, Table 1-4 | Issue: **Inconsistent Economic Presentations**<br>Comment: Table 1-4 on page 1-14 is inconsistent with presentations made in Appendix F. The following Tabulation displays inconsistencies between the two presentations: |

| Mine | Appendix F Reference Table | Jobs created or Retained as Presented in Appendix F | Jobs created or Retained according to Table 1-4 |
|---|---|---|---|
| Desoto | Table 12 | 405 | 300 |
| Wingate East | Table 16 | 117 | 127 |
| Ona | Table 14 | 694 | 300 |
| South Pasture | Table 18 | 176 | 230 |

It appears that that Appendix F was not used in the section discussing the economics

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| | presented in the Project Purpose and Need.<br>The USACE has gone to great length in Appendix F to develop an economic analysis and then appears to ignore it. The document needs to be consistent. |
| Fellman Comment #24<br>Executive Summary and Chapter 4<br>Section ES6.1<br>Pages: Various,<br>Chapter 4 Page 4-158 | Issue: **Use of UMAM scores to define the setback allowances for wetlands**<br>Comment:<br>The AEIS states (see page 4-158) that it used an UMAM score of .7 or greater to define a "high value" wetland. On February 2, 2012 a meeting of the Manatee County Commissioners was held in Bradenton for the purpose of changing the zoning status for the Wingate Extension, a roughly 661 acre parcel located in Manatee County. In testimony presented by Mosaic at a meeting, Mosaic showed that it planned to reclaim a wetland that would need to be removed as part of the "Wingate Extension". Mosaic agreed to reclaim the wetland and restore it to a UMAM value of .65. Why has Mosaic used .7 as the cut-off value in this study? |
| Fellman Comment #25<br>Executive Summary and Chapter 4<br>Section ES6.1<br>Pages: Various in both ES and Chapter 4. | Issue: **Need for UMAM Score vs Mineable Acreage Tabulation**<br>Comment:<br>There are a number of tables presented in Chapter 4 and in the Executive Summary showing the relationship between setback allowances and acreage removed from mining. These tables cover a variety of ecological features such as perennial streams, "Greenways", etc. Mosaic's permit application used a UMAM score of .7 to determine High Value wetlands worthy of setback protection. The AEIS needs to have a tabulation showing for each of the Alternatives a net Mineable Area vs UMAM score to illustrate the effect of preserving lesser valued wetlands.<br>Presumably, (see Fellman Comment #24 above) Mosaic would not deem a restored wetland it committed to at the Feb 2, 2012 Meeting of the Manatee County Commissioners as a candidate for setback protection. |
| Fellman Comment #26<br>General | Issue: "It is expected that offsite noise generated during mining operations will be moderate and intermittent and within limits established by Hardee, Desoto, and Manatee County ordinances of codes" . **Lack of adequate concern for the issue of noise pollution.**<br>Comment:<br>On February 2, 2012 a meeting of the Manatee County Commissioners was held in Bradenton for the purpose of changing the zoning status for the Wingate Extension, a roughly 661 acre parcel located in Manatee County. In testimony presented by home owners living adjacent to the extension, it was made clear that adjacent communities suffered from serious noise and light pollution as well as insidious vibrations transmitted offsite by excavation activities which continue essentially 24/7.<br>Rather than simply writing off these intrusions with a blandishment such as the above, the AEIS needs to identify specific mitigation measures to be taken including the location of the measures. |

*If additional space is needed, please securely attach additional sheets to this form.*

**Mailing Address:**
Draft AEIS Comments
USAGE- Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

**Email:** TeamAEIS@PhosphateAEIS.org **Web Site:** www.PhosphateAEIS.org **Telephone:** (813) 769-7067

## Fellman Comment #10: AEIS. Section 1.2, Project Purpose and Need

## Synopsis: AEIS Must have an Phosphate Rock Importation Alternative

By excluding an alternative that employs the importation of phosphate rock from sources outside of the CFPD, the USACE is depriving the public of a basis of comparison displaying what a balanced economic impact will be if the wetlands, streams and agricultural lands of the proposed mines are left undisturbed but the phosphate rock and product and their associated economic advantages are accounted for.

It is true that the No-Action Alternative also allows for these ecological resources to remain undisturbed, but as presented in Appendix F and stressed throughout the document, the mining alternatives **allege** economic advantages because of the value added from the phosphate rock and product.

Thus it is reasonable to develop an alternative that accounts for the production while not proceeding with mining.

In actuality, the AEIS has outlined exactly such an alternative.

In Section 2.2.5.3 it states that:

"The most reasonable approach to importation would be to bring the rock into the Port of Tampa by ship then transfer the rock to barges or trucks for transport to the processing facilities. Implementing this process would require the purchase of additional facilities and equipment at both the port and the processing facility."

The text (Lines 10 through 30 – not repeated here) then identifies the facilities and the operational requirements associated with implementation of this defined approach.

It is clear that this alternative will directly and indirectly increase economic activity for parts of the study area. This may be shown by noting that in AEIS Chapter 1 in Section 1.2.1.2, "Historical and Current Economic Importance", Page 272, at lines 21 through 26, the AEIS states that:

"(t)he movement of phosphate by port shippers and consignees such as Mosaic and CF Industries creates more **than 67,000 jobs** generating **$4.3 B** in personal income in the regional economy annually (Martin Associates, 2006)."

Presumably, this is based on the present level of phosphate product shipment and handling. Similar or greater job-creation and economic advantages may arise if the approach outlined in the AEIS is followed. It may easily be argued that the level of port activity and number of jobs would increase under the outlined importation alternative.

The AEIS (lines 15 through 21) further states that:

"The USACE has determined that due to the increased expense of adding and maintaining a second supply system, it would not be reasonable for the applicant to both mine and import rock for processing

simultaneously. Discontinuing mining operations and shifting solely to importation of rock does not meet the purpose and need. "

The AEIS provides no analysis of the "increased expense", nor has any reference been provided. It is not prima-facie obvious that the importation alternative presented in the AEIS is impractical. The whole question of why this is unreasonable is left unaddressed.

Further, the AEIS states that the purpose and need for the project would not be met with an importation alternative. Yet that statement is altogether at variance with the argument presented in Section 1.2.1 – "The Public's Need". One concludes from Section 1.2.1 that phosphate product is needed for US and global **agricultural** purposes and that Florida and counties enjoy tax and economic benefits. Table 1-4 summarizes the **economic** advantages.

That the importation of phosphate rock would satisfy **agricultural needs** is self-evident. The development of the outlined alternative will also show **a positive economic impact** probably rivaling that shown in Table 1-4. Thus, the importation alternative needs to be analyzed and presented in detail.

There is further discussion at Chapter 1 on Page 1-11, lines 14 through 18 which casts a dubious aspersion on the security of the phosphate supply. This discussion states:

"(a)s noted previously, the U.S. no longer produces a surplus of phosphate and instead is increasingly reliant on imported phosphate to meet increasing demands for food supplies in the U.S. and elsewhere (Lifton, 2011). Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world. **The political security of these supplies is lacking, with disruptions a common occurrence (Lifton, 2011).**"

As a simple note of scholarship, the Lifton reference does not appear in the reference section of the AEIS. Nevertheless, one is able to find the probable reference[1]. It is essentially an advertisement for Mr Lifton's investment point of view. His promotional biography states that he:

"is a leading authority on the sourcing and end use trends of rare and strategic metals. He is a founding principal of **Technology Metals Research LLC** and president of **Jack Lifton LLC, consulting** for institutional investors doing due diligence on metal- and material-related opportunities."

Mr Lifton's pessimism regarding Morocco's political stability however, is not universally shared.

According to FOX News[2] (February 2011) "**The government (of Morocco – ed. note) is also fundamentally stable** due to the Moroccan political culture which has a unique aspect that most populous Arab countries cannot easily emulate. Morocco is governed by a monarchy with three centuries of continuous history in the country" The FOX News article further quotes the French Daily "Le Monde ", hailing voting as the "**Moroccan Exception**" to the Arab region.

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[1] http://www.resourceinvestor.com/2011/06/03/feeding-the-worlds-hunger-for-phosphorus
[2 2] http://www.yacout.info/Fox-News-highlights-Morocco-s-political-stability_a2494.html

Finally, three points:

1) **Morocco is a member of the WTO and thereby enjoys "Most Favored Nation" trade status.**
2) **Morocco has approximately 70% of the world's phosphate reserves[3].**
3) **Mosaic has imported phosphate rock from Morocco (and Peru) and thus has established a precedent for importation.**

Therefore, for Morocco, the possessor of the world's greatest supply of phosphate rock, the issue of the security of supply is not valid. Moreover, the USGS[4] has projected that an increase of 26% in world annual phosphate production capacity will be sustained by 2015. The increase, according to the USGS , "will be from a combination of new mines and expansion of existing operations (Australia, Brazil, Canada, Namibia, Peru and Morocco).

In summary, an importation alternative will satisfy the "need" for the phosphate product and will provide a comparative economic benefit. Such an alternative identifies to the public exactly what it would mean to leave the affected environment undisturbed compared to the mining alternatives while satisfying the "Public Need".

[3] U.S. Geological Survey, Mineral Commodity Summaries, Page 119, January 2012
[4] U.S. Geological Survey, 2010 Yearbook, Phosphate Rock (Advance Release), Page 56.4

Submission number 350

**From:** West Palmer [mailto:West.Palmer@hardeecounty.net]
**Sent:** Monday, July 30, 2012 11:05 AM
**To:** 'teamaeis@phosphateaeis.org'
**Subject:** Public comment

The schedule indicates that the public comment period ends tomorrow. Is there a period of time after that day that you will accept comments? Or is the 30th the true deadline for comments.

Thanks for your time.

**West Palmer**
**Mining Coordinator**
**Hardee County Mining Department**
**110 South 9th Avenue**
**Wauchula, FL 33873**
**(863) 773-0136**

Submission number 351

To: John Fellows, Corps Regulatory Project Manager
US Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302 John.P.Fellows@usace.army.mil

Cc: Steven W. Gong, AEIS Consultant Project Team Manager
CH2M Hill Engineering, Inc.
800 Fairway Drive, Suite 350
Deerfield Beach, FL 33441 teamaeis@phosphateaeis.org

From: Debra L. Highsmith
3249 Scenic View Drive
Punta Gorda, Florida 33950
dlhpbh@comcast.net

July 29, 2012

**RE: COMMENTS ON DRAFT AREAWIDE EIS FOR CENTRAL FLORIDA PHOSPHATE DISTRICT**

Chapter 1 Project Purpose

Specifically, 1.2.2.3 USACE Defined Project Purpose and Need:

**RECOMMENDATION: The purpose and need statement should be revised include "to minimize, to the maximum extent practicable, the adverse environmental effects to water, soils, and fish & wildlife in the phosphate area." The geographic scope of the DAEIS should be expanded to specifically include Charlotte Harbor.**

The purpose and need statement as written predetermines that phosphate mining, and separation and beneficiation facilities will occur *without any attempt to minimize impacts.* The purpose and need statement is defined so specifically, and without reference to protection of the environment, that it is designed to lead to mining of phosphate wherever it appears in the CFPD. The statement should reference the need to mine consistent with the need to protect the environment including Charlotte Harbor.

I have read the Purpose and Need statement of the Mountain Top Mining / Valley Fills in Appalachia Final Programmatic Environmental Impact Statement (October, 2005). The reason this PEIS is Programmatic is "that it evaluates broad Federal actions such as the adoption of new or revised agency program guidance, policies, or regulations. " I recommend that a new phosphate EIS be developed as a PEIS that includes environmental protection and evaluates the need for new regulations like severe buffering as a preferred alternative.

The project purpose pre-ordains current mining and continued unspecified mining in uplands. The project purpose should read something similar to the Mountain Top Removal Programmatic AEIS: Mountaintop Mining/Valley Fills in Appalachia Final Programmatic Environmental Impact Statement, the *purpose of which was to reduce the adverse environmental impacts*. The preferred alternative *enhances environmental protection* and improves efficiency, collaboration, division of labor, benefits to the public and applicants. The phosphate DAEIS draft does nothing of the sort and simply parrots the applicant's wishes.

At the scoping meetings, many organizations and individuals begged the Corps to include Charlotte Harbor, its estuaries, and shoreline cities and counties. I am deeply disappointed that the boundaries of the Central Phosphate Mining District are so narrow as to not consider downstream effects. The most direct effect of phosphate strip mining is the lack of fresh water coming down the tributaries of the Peace and Myakka Rivers, especially in the dry season. Dry season changes effect estuary production as the mixing zone moves up river into narrower, less vegetation-rich reaches. Additionally, salt water intrudes into the intake pipes of the Peace River Manasota Water Supply Authority affecting the public water supply.

The process of performing this AEIS is needlessly entangled with the permitting of 4 new mines. NEPA requires one preferred alternative. By adding 4 new mines to this mix AND 20 other alternatives, the result of this DAEIS is a complicated matrix of preferred alternatives. This AEIS will be referred to in all future mining permits. I am disturbed that Mosaic comments directed this DAEIS by focusing on their specific, immediate projects as preferred alternatives.

Chapter 2 Alternatives

The "no action" alternative means mining can occur the way mining has always been done, with no further protections necessary. (Refer to creating an enhanced project purpose for the final record.)

The addition of 4 new mines, without additional environmental protections (like enhanced buffers) is sad. Why can't the addition of meaningful buffers be evaluated as preferred alternative? It's hard for members of the public to differentiate what constitutes new regulations with the ability to adopt meaningful alternatives, so after reading the DAEIS, perhaps a PEIS is the right answer.

Chapter 3 Affected Environments

The baseline condition for this study is NOT a true baseline. The baseline of 2010 simply ordains that all of the damage to the Peace and Myakka Rivers watershed before 2010 is "water under the bridge". I completely disagree with this approach and recommended a truly cumulative impact study. Cumulative is cumulative...past, present and future...added together...and easy to understand. This study accomplishes nothing of the sort. There is no Gantt chart of when mining and reclamation stopped and started for each past, current, and proposed mine. There is no statement of what the watershed would look like in a cumulative mining build-out scenario. There is no recognition of decades of damage both pre- and post-regulation regarding reclamation. I expected the baseline condition to reflect pre-mining conditions, not a rolling average that masks a highly disturbed ecosystem.

RE: Figure 4-61. Phosphate Lands Mined and Not Yet Reclaimed illustrates that things are about to go from bad to worse. This graph ends in 2060; one can see that the capture area/mined and unreclaimed land extend beyond that, into the 2090s in fact. This graph clearly illustrates that past damages (at least the damages since 1975) are the key to present damage, and future damage. This graph shows that things are about to get worse for decades to come.

Where is the consensus of 20 years of science in the Peace and Myakka watersheds? New work presented in the DAIES has not even been peer reviewed.

It's unforgivable to the public interest, health and welfare, that the exclusion of the most egregious, dangerous, and notorious by-products of phosphate mining are ignored: Fertilizer plants, gypsum stacks and the beneficiation process. These should be included in the final EIS.

Chapter 4 Environmental Consequences

This entire chapter must be re-done with state-of-the-art integrated modeling. Decades of water quality sampling and analysis must be incorporated.

The scoping process recommended integrated groundwater and surface water modeling. Integrated groundwater and surface water modeling did not occur in this study even though the best peer-reviewed technical tools are available for doing so. Special attention should have been paid to dry season levels, small streams, LIDAR, and drought analysis.

Using the best available tools is necessary. The study titled "The Interdependence of Headwater Wetlands, Groundwater Levels, and Stream flow Before and After Mining" by Terrie M. Lee and Geoffrey Fouad US Geological Survey Florida Water Science Center, Tampa" is groundbreaking. The result is that a completely integrated modeling approach is productive, necessary and doable.

Extremely limited water quality measurements at mining sites over just *six years* during *wet season events* is completely unacceptable.

Clean water drives our economy. The economics section fails to consider a complete and inclusive economic analysis. Alternative economic analyses have been provided to the Corps and should be included in the final document.

Onsite alternatives/buffers should be included in the alternatives.

Chapter 5 Mitigation

The value of natural lands over mitigated lands is never calculated. For example, what is the value of a natural stream versus the quality of an artificial stream on reclaimed land?

Mitigation should obviously include avoidance and minimization. Instead, this study incorrectly goes directly to offsite mitigation.

In Conclusion

*I also adopt and incorporate the following comment letters, referenced below.* I am a member of the Greater Charlotte Harbor Sierra Group, and am a member of the Citizen's Advisory Committee of the Charlotte Harbor National Estuary Program:

Comments on Draft Areawide EIS for Central Florida Phosphate District , July 25, 2012, Manasota-88, People for Protecting Peace River (3PR) , Protect Our Watersheds (POW) , & Sierra Club Florida Phosphate Committee

Comments on Draft Areawide EIS for Central Florida Phosphate District, July 30, 2012, Charlotte Harbor National Estuary Program

Submission number 352

**From:** Mandy Hines [mailto:m.hines@desotobocc.com]
**Sent:** Monday, July 30, 2012 1:48 PM
**To:** TeamAEIS@PhosphateAEIS.org
**Cc:** Guy Maxcy
**Subject:** Permit Application No. SAJ-2011-01968 (IP-MEP)
**Importance:** High

To Whom It May Concern,

The DeSoto County Board of County Commissioners recently learned of the Public Comment period for the above referenced Permit Application submitted by Mosaic. We have obtained a copy of the Public Notice via the website but have been unable to locate the official Notice by mail. As a result, the County has not prepared comments by the 30 day period but would like to submit comments upon review of the document by the appropriate departments. DeSoto County is requesting an extension of the comment period to provide for ample review time of the Permit application.

For tracking purposes, could you kindly indicate the mailing date of the notice and the addressee at the County level. We would greatly appreciate an extension of the public comment period on this important matter to the citizens of DeSoto County. Please feel free to contact me at 863-993-4800 for discussion or via email. I have attempted to telephone the two locations in Tampa; however, the phone has not been answered in my call attempts.

Respectfully Submitted,
Mandy Hines, County Coordinator
DeSoto County Administration

Submission number 353
(Attachments Available)

Submission Tracking

| | |
|---|---|
| bmission Number: | 000000353 |
| ceived: | 07/30/2012 03:49:39 PM |
| Organization: | Manatee County Government, Alissa Powers |
| Commenter Type: | County Government |
| Classification: | Form Letter |
| Category: | Attached file |
| Submitted As: | CW Web Form |
| Form Letter Category: | Duplicate |
| Form Letter Master: | |
| Remarks: | |

Zoom

General

<([#1 [49]See attached comment letter. A hard copy has been sent via the U.S. Postal Service.
#1])>

| | |
|---|---|
| Primary Commenter: | |
| Commenter ID: | 52602 |
| Hide Submitter: | |
| Commenter Type: | County Government |
| ame Prefix: | |
| First Name: | Alissa |
| Last Name: | Powers |
| Name Suffix: | |
| Title: | Environmental Program Manager |
| Organization: | Manatee County Government |
| Division: | Not Applicable |
| Address Line 1: | 202 6th Avenue East |
| Address Line 2: | |
| City: | Bradenton |
| State/Province: | Florida |
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| Country: | |
| Phone: | 941-742-5980 x1892 |
| Fax: | 941-742-5996 |
| Email: | alissa.powers@mymanatee.org |
| Number of Additional ommenters: | 0 |

elete Commenter

# MANATEE COUNTY
## FLORIDA

July 25, 2012

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610

Re: Central Florida Phosphate District Draft Area-wide EIS

Dear Mr. Fellows:

Manatee County government wishes to thank the United States Army Corps of Engineers (USACE) for the opportunity to provide comments on the Draft Area-wide Environmental Impact Statement (AEIS) for the Central Florida Phosphate District (CFPD). An Environmental Impact Statement is intended to be sufficient in scope to address federal, state and local requirements and environmental issues concerning the Proposed Actions (i.e., Wingate East Mine, Desoto Mine South Pasture Mine, and Ona Mine). Currently Manatee County has over 20,000 acres of permitted phosphate mining, with the potential for an additional 25,000 acres. Therefore, the proposed AEIS has significant implications on Manatee County's continued environmental and economic health.

In reviewing the draft AEIS, Manatee County staff has considerable concerns regarding several areas of defects and omissions. Specific and substantive comments are provided below and are organized by AEIS chapters. It should be noted that this technical review is provided by Manatee County staff and does not represent the views or positions of the Board of County Commissioners.

**Executive Summary:**

1. ES.6.1: The Executive Summary makes the statement that "*comparative analysis were performed of the relative effects of imposing these conceptual buffer areas around wetlands that scored high using either WRAP or UMAM...*" Besides this paragraph in the Executive Summary and Tables ES-9 and ES-11, further discussion of the analyses was not found in the draft AEIS.

Office of the County Administrator
Mailing Address: P. O. Box 1000 Street Address: 1112 Manatee Avenue West, Bradenton, FL 34206-1000
WEB: *www.mymanatee.org* * PHONE: 941.745.3717 * FAX: 941.745.3790

2. ES.6.2.2 (Chapter 3, Chapter 4, and Appendix E): The AEIS makes conclusions regarding the effect proposed mining will have on surface water flows based on an annual average basis. As the Peace River (Horse Creek basin) and the Myakkahatchee Creek serve as sources for significant public potable supplies, using the effect on the annual average flow is an inadequate approach. The flows of these rivers are highly seasonal, with the vast majority of the flow coming in the four month rainy season. Prolonged dry seasons of much less than average flow are the norm. The analysis of mining impacts on these rivers needs to be based not on average annual flow but on a seasonally adjusted flow regime similar to those used in the Southwest Water Management District's approach to setting minimum flow for these rivers. Any analysis that shows 'minimal effect" has to show that there is minimal effect on the low flow periods and that the base flows reserved for the environment (i.e., 67cfs at the Middle Peace River Arcadia Gage) are protected. Showing 'minimal' effect on average annual flow does not assure that low flows will not be impacted. This takes on added significance if a predicted shift to less frequent, but higher intensity rains occur with global climate changes.

**Chapter 1: Project Purpose and Need:**

1. Manatee County recognizes that phosphate is an essential ingredient in fertilizer and that the Central Florida Phosphate District (CFPD) contains the most extensive phosphate deposits in the United States. Manatee County also recognizes that unregulated mining can cause impacts on habitat, water quality and water quantity. However, the AEIS fails to provide practical alternatives that both preserve existing onsite natural resources and permit recovery of otherwise mineable phosphate reserves. Manatee County recommends that the AEIS contain a clear Environmentally Preferable Alternative that balances environmental values and functions with the phosphate mineral in order to address NEPA Section 101. As there was no recommended Environmentally Preferable Alternative provided in the Draft AEIS, Manatee County, as a commenting agency, recommends the following environmentally preferable alternatives be considered:

    a. Restrict mine extraction activities in the 25-year floodplain, perennial streams, or wetlands functionally integrated with the 25-year floodplain. (Manatee County Phosphate Mining Code, Ordinance No. 04-39 (codified as Chapter 2-20, Code of Laws, Manatee County, FL), restricts phosphate mining activities in these areas unless the applicant can demonstrate through competent and substantial evidence that mining activities will not result in adverse effects to water quality, water quantity or natural habitats therein.
    b. Restrict mine extraction activities in wetlands of moderate to optimal values as expressed by the uniform mitigation assessment method (UMAM). Without further documentation of wetland reclamation success, preserving "moderate to optimal" valued wetlands is a prudent measure to achieve NEPA 40 CFR Section 101(b)(3),

*"attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unattended consequences."*

2. Section 1.3, Page 1-24, Lines 22-35: In-fill parcels may be smaller in size (typically 300 or larger acres) but permitting these areas may have unattended adverse consequences which may be significant in the local context and therefore should be evaluated in the AEIS cumulative impact study. Consequences of these "in-fill" parcels include extending the life of mine, delays between mining and reclamation, additional lands temporarily removed from the watershed, etc. These consequences may have cumulative impacts which should be considered in this study. Any of the identified offsite alternatives adjacent to the four proposed actions could potentially become an "in-fill" parcel. Therefore, Manatee County recommends analyzing the four proposed actions with reasonably foreseeable "in-fill" parcels as an alternative. The history of Four Corners Mine "in-fill" parcels is well known and could be used to make appropriate assumptions.

**Chapter 2: Alternatives:**

CEQ regulations implementing NEPA, 40 CFR, Parts 1500-1508, require that all reasonable, feasible, prudent, and practicable alternatives that might accomplish the objectives of a proposed project be identified and evaluated.

1. Section 2.2.3, Onsite Alternatives, Page 2-8: Manatee County staff supports the application of buffers around unique habitats or habitats with protected species in order to provide against direct impacts to these habitats. However, the spatially defined buffer zones used in this analysis are too large to provide reasonable or practical alternatives. See additional comments under Chapter 4.

2. Section 2.2.3, Onsite Alternatives: Satisfactory consideration of mining operations onsite alternatives has not been given. Such onsite alternatives, for example: a) only mining one side of a riverine system at a time, or b) phasing land clearing with reclamation so that muck soils can be directly transferred to reclaimed wetlands, or c) rotating mine blocks to reduce the acres disconnected from a sub-basin as any given time, could minimize environmental impacts or other undesirable consequences. These practices are operationally possible and effective but require some additional planning. However, unless required to consider onsite alternatives in mining operations, the mining industry will continue status quo operations.

3. Section 2.2.4: No exploratory data was presented as to quality/quantity of matrix available to support any of the Offsite Alternatives as viable options.

4. Section 2.2.4.8, Page 2-54, Lines 1-17: FEMA Flood Insurance Maps used are the old version and do not represent the best available information. New maps are not scheduled for adoption until March 2013, but are best available data and should be used.

5. Section 2.2.4.8, Page 2-64, Table 2-15: Regulatory setback requirements for Manatee County are incorrectly referenced. Setbacks for phosphate mining extraction activities, clay settling areas and beneficiation facilities, stockpiles, and related activities and structures are specified in the Manatee County Phosphate Mining Code

6. Section 2.2.4.9, Summary, Page 2-68: Lines 4-7 state the combined two tiers of screening removed over 121,628 acres. However, in Manatee County, each mining operation requires the Agriculture (A) Future Land Use Category. While the maps do not define Manatee County's Future Land Use Map, it appears that some of these Alternative Sites are inside or adjacent to the Urban Fringe – 3 (UF-3) Future Land Use Category, which is also inside the County's sewer service area. This is an area designated for future suburban development. In order for mining to occur in the UF-3, an amendment would be required to the Future Land Use Map with required public hearings before the Planning Commission and Board of County Commissioners. Therefore, Manatee County staff recommends that Figures 2-17 and 2-18 be revised to remove Alternative Polygon Areas FF and CC-2. Please see additional comments in Chapter 3 concerning Offsite Alternatives.

7. Section 2.2.5.1, Page 2-68 Functional Alternatives: Inadequate support was given for elimination of dredge mining alternative. Statements were made on page 2-68, lines 23 through 29 and page 2-71, lines 7-15 without citations that the dredge system is a high energy user and high water user. In Chapter 3: Affected Environment, there is no indication that the dredge mining has caused any more water quantity impacts than dragline mining. The transport and beneficiation of the matrix is entirely a wet process so water is required to handle the sand and clay in both technologies. Dredge mining causes little drawdown of the surficial water table during mining, which is a benefit for preserving offsite wetlands and environmentally sensitive natural resources. Evaporation of the dredge pond is also cited as a reason. Evaporation also occurs in the ditch and berm system of the dragline process, as well as the lakes that remain after mining. There was no comparison done of evaporation differences between the two mining techniques. There was no review of energy use in the draft AEIS. See attached white paper[1] by Roland Huene which addresses these issues in more detail. Wingate Creek Mine has made many of this report's recommended improvements which have resulted in increased efficiencies and production in recent years. Although Section 2.3 proposes to eliminate dredging as an alternative because this method would not be applicable for "all mines", it will still be utilized in site-specific operations and deserves appropriate consideration. Alternative areas identified in the southern portion of the CFPD are dominated by basins that are characterized as "having a high water groundwater table and a significant presence of wetlands", which may be more suitable for dredge mining.

[1] Huene, Roland. *Phosphate Mining Dredge or Dragline.* Nu Gulf Wingate Holdings LLC.

**Chapter 3: Affected Environment:**

1. Section 3.1.4, Page 3-5: The draft AEIS states that "CSA footprints historically represented up to 40 percent of a mine's total acreage at completion of the life of the mine." This is a considerable amount of acreage that has limited post-reclamation uses. All efforts should be made to ensure that the footprints of permitted CSAs are minimized and that no individual county, jurisdiction or watershed is burdened with an overabundance of CSAs. Manatee County requires a clay balance which prohibits importation and disposal of clays that are not mined within the County.

2. Section 3.2, Page 3-11: The draft AEIS states that "existing clay settling areas..." would support mine extensions at existing mines like Wingate Creek. This is not true since historically the CSAs were designed to hold the clays for the existing, permitted mine only. In fact, Mosaic's Wingate East Application No. 2009-03221(IP-ACR), Section 3.2.2.2, states that "Mosaic proposes to construct two CSAs (WE-1 and WE-2) on Wingate East...). An appropriate cumulative impact of these CSAs should be performed. Also, due to the limited post-reclamation use of CSAs, Manatee County requires only equivalent clays produced in Manatee County to be stored in the County. Other counties may have similar requirements. An accurate clay balance should be performed as requested in our scoping letter (Attached).

3. Section 3.3.3, Page 3- 81 through 3-90: The AEIS should include an independent, statistically significant analysis of surface water quality at all waterways connected to active mines within the CFPD. The AEIS evaluation relies on past investigations in the "four corners" area (Lewelling and Wylie, 1993), Horse Creek (BRA, 2006), and the Peace River (PBS&J, 2006). The Peace River study was inconclusive in its evaluation of phosphate mining effects on surface water quality and the Lewelling and BRA evaluations only take into account a single system. NPDES data, while valuable, only provides information on individual mine discharges on a variable basis in times of high water. An evaluation that includes seasonality is needed to assess surface water quality of various waterways within the CFPD. Data is available from other sources, for example DRI 5/251 and Manatee County Ordinance 08-16 require eight (8) surface water quality monitoring stations within Manatee County, five (5) that are sampled quarterly and three (3) that are sampled monthly. Data from other local, state, and federal programs are also available.

4. Section 3.3.6.3, Page 3-125, Line 2: In reference to Figure 3-45, FDEPs Conceptual Integrated Habitat Network and Agricultural Land use Coverage in the CFPD, many of the Alternative Sites referenced in Chapter 2, fall in areas that have the Level 1 FLUCCS – Agriculture designation, meaning they have active agricultural uses. Alternatively, these sites developing as mining operations instead of active agriculture, could significantly negatively contribute to the economy in the county. While agriculture is

sustainable for generations, properties post-mining reclamation may not be able to support the same level of agriculture, especially in the clay settling areas.

5. Section 3.3.7.2, Page 3-130: Manatee County recently updated its population projections with the update to the Sarasota-Manatee Metropolitan Planning Organization's Long Range Transportation Plan (MPO-LRTP). The projections were based upon Certificates of Occupancy and local development trends. While generally comparable, the LRTP had a higher growth projection to 2035 by 5% while still remaining inside the County's Future Development Area Boundary. This boundary is essentially the western edge of the Agricultural/Rural (Ag/R) Future Land Use Category which aligns with the County's eastern boundary of its sewer service area.

   The study illustrates the migration of potential mining activities to the west in areas the Comprehensive Plan calls for future suburban development. Development plans for these areas include residential, services, institutional uses such as schools, commercial and other development activities that are likely incompatible with mining activities.

   Alternative future mining areas in north central Manatee County are also adjacent to existing residential development, including the Foxbrook subdivision, which is an existing residential subdivision that is mostly developed. Other areas of potential mining activities that are in the south central portion of the county may be in proximity to older platted subdivisions that contain hundreds of single-family homes on 1 acre and larger lots. These areas of the county are generally incompatible with mining activities. Therefore, Manatee County staff recommends that Figures 2-36 be revised to remove Alternative Polygon Areas CC-2, FF and X.

6. Section 3.3.7.2, Page 3-131, Line 4: In reference to Figure 3-48, 2020, 2040, and 2060 Regional Urban Growth Projections for South Central Florida by 1000 Friends of Florida, the population distribution assumptions made are totally inconsistent with current policies in Manatee County's Comprehensive Plan and other land use regulations. To get suburban population density with central potable water and sewer service east of the current Future Development Area Boundary, there would have to be massive changes to the Goals, Objectives, and Policy structure to the Comprehensive Plan, to include the Future Land Use Map, Sewer Service Area Maps (based on other engineering studies), and changes to Potable Water and Sewer Service Infrastructure Plant Computer Models, and changes to transportation and traffic computer models, etc. Not insurmountable, but major changes.

7. Manatee County's *How Will We Grow?* project, while still underway at the time of these comments, projects enough vacant land within the current Future Development Area Boundary to handle future population growth beyond 2035.

8. Section 3.3.7.5, Page 3-138, Lines 16-29: Replacing active agriculture, a continuously renewable economy for future generations, with mining and reclamation, would

negatively contribute to the economy in the county in the long-term unless there is a technological solution to dealing with background radioactivity and Radon Gas on reclamation lands in the future. While agriculture is sustainable for generations, properties post-mining reclamation may not be able to support the same level of agriculture, especially in the clay settling areas.

9. Section 3.3.7.7, Page 3-148, Lines 22-35 and Page 3-148, Lines 1-9: There is no exception for mining operations in the Manatee County Noise Ordinance, 08-12, as amended.

10. Section 3.3.7.7, Page 3-152: The effect of radiation in food consumption has not been adequately addressed. Typically reclaimed CSA's are used for cattle production and limited crop production. Please provide reference studies that address potential health concerns of consuming beef and dairy products from animals grazing on CSAs, or vegetable/fruit products grown on reclaimed CSAs.

**Chapter 4: Environmental Consequences:**

This chapter's purpose is described as identifying and evaluating direct, indirect, and cumulative effects expected to occur as a result of implementing each alternative with consideration to federal, state, or local requirements for protecting the environment and the level of public concern about potential impacts. The Manatee County Scoping letter provided a summary of twelve items of potential impacts and problems. Although portions of these items were discussed in the draft AEIS, significant concerns remain. Below we have elaborated on the significant items.

1. Section 4.2.3, Surface Water Resource: The analytical approach used to forecast surface water hydrologic impacts has significant flaws and is inadequate for the stated purpose of the AEIS. The resulting model has no predictive utility over the very long time span over which it's applied.

2. Section 4.2.4.2: Key Assumptions assumes 40% of reclaimed land will be used as improved pasture after reclamation. We can conclude that this assumption is based on the fact that approximately 40% of mined land is used for the disposal of clays in CSAs. Therefore, it should also be assumed that another 40% of reclaimed mine land will be comprised of lakes, streams, wetlands, etc. which are not available for development. Therefore, when mining is approved, less than 20% of the land post-reclamation will be available for development. This needs to be evaluated economically compared to the No Mine option.

   Inputs to the surface hydrology model have deficiencies which fatally compromise the utility of its predictions over the very long time span of the model forecasts. In particular:

- (App. E, Section 2.3.5 Land use specific Runoff Coefficients) The validity of the Janicki (2010) land use specific runoff coefficients over a 50-year time span is questionable. They were not developed for applications of this temporal scope. Additionally, these coefficients are seasonal coefficients and are by their very definition unusually sensitive to regional climate cycles (documented in the AEIS references). Robust, long life cycle land-use specific runoff coefficients must be specifically developed for a successful forecast model.
- (App. E, Section 2.4 Method Validation Result) Interactions between rainfall and the value of the long term hydrologic factor (J) pointed out in Section 2.4 were not comprehensively examined. Instead, which simply posited the monotonically decreasing trend in the long-term hydrologic factor (J) values versus rainfall present in Table 4 indicates a response to lower annual rainfall totals from effects of basin storage characteristics. However, rainfall and land use factors are both individually already in the model and this behavior may also point to a significant, un-modeled interaction term. This behavior needs to be analytically examined if it continues to appear in the forecast model. It is not adequate to simply dismiss this behavior or describe its mitigation (Section 2.4, Page 16, last paragraph).
- (App. E, Section 3.0 Land Use Projections ) Future land use layers that represent a fundamental watershed characteristic in the surface water model are developed using GIS-based projections of contemporary land use and cover trends. This approach ignores the many factors that may affect future land use distribution in the Central Florida Phosphate District (CFPD) (i.e. urban development, agricultural development, transportation networks, conservation lands) that are widely known to the area's Policy, Planning, Transportation, and Economic entities who have published voluminous appreciations of future growth patterns over time frames approaching, if not congruent, with the time frame used by the AEIS hydrologic model. Aggregating the region's official future land use projections and building the model land use and cover GIS layers informed by these appreciations is the only credible means of forecasting watershed characteristics 50 years in the future.
- (App. E, Section 4.0 Capture Area Predictions) Mine capture area forecasts used in the analysis are simple representations of idealized mine plans and do not reasonably model the mine impact characteristic used by the surface water quality model over the very long time span simulated by the model. The mine capture area needs to be statistically modeled to a level that predicts upper and lower confidence intervals on mine capture area with respect to time. A credible model will also factor in economic and regulatory factors known to affect mine operations.

3. Section 4.3: The draft AEIS has not sufficiently considered the direct, indirect and cumulative effects of landscape changes, such as clay settling areas (CSAs) and created lakes. Section 1502.16 of the *CEQ Regulations for Implementing NEPA* indicates that such a permanent feature warrants a discussion of the effects and their significance.

CSAs, when reclaimed, remain a modified feature in the watershed. CSAs have limited uses (i.e., no residential development can occur on them). Created lakes may have beneficial effects such as fish and wildlife use and detrimental effects such as changes in regional evaporation rates. A regional evaluation of past, present and reasonably foreseeable incremental impacts to the landscape is necessary to properly assess the net effects. The Ecological Resources evaluation (starting on page 4-28) does not take into account past or current changes to the landscape. The AEIS should evaluate the cumulative effects of clay settling areas to surface waters, economics, public health (radiation effects), aesthetics, and wildlife.

4. Section 4.10, Page 4-154: The analysis in Chapter 4 should be rerun using reasonable buffer widths that are based on scientific studies[2]. Consideration should be given for any State or County mandated buffer zones or setbacks from wetlands, floodplains, residential areas, roadways, and perennial streams.

5. Section 4-10: In its current state the IWHRS analysis is insufficient in detail to review direct, indirect or cumulative impacts or their significance to the CFPD. The results of the IWHRS analysis should be incorporated to identify and compare ecologically important habitat for wildlife on each alternative and between alternatives. Protected species should be identified and loss of such ecologically important habitats should be quantified.

6. Section 4.11.1, Page 4-162: The draft AEIS states that the Southwest Florida Water Management District (SWFWMD) has implemented measures in water use permitting which are proactive in addressing dewatering impacts. Please verify that these measures have been incorporated into Chapter 40D-2, Rules of the SWFWMD Water Use Permits.

7. Section 4.11.4, Page 4-165 Noise: Manatee County Noise Ordinance was not included in this section of the study (Manatee County Noise Ordinance, 08-12, as amended).

8. Section 4.11.5, Page 4-165: Manatee County recommends a more in-depth air quality evaluation of proposed beneficiation facilities be performed based on the Clean Air Act to address whether the location of the facilities may cause non-attainment levels in surrounding counties. Although as referenced on Page 3-148, lines 1-8, the region is classified as in attainment, there have been exceedances which may be increased by the proposed actions.

9. Section 4.11.11, Reclamation: Manatee County Scoping letter recommended an evaluation of reclamation techniques and we stress that this request has not been met. There has been no evaluation of xeric habitat reclamation or other upland reclamation for

[2] Wenger, S. 1999. A review of scientific literature of riparian buffer width, extent and vegetation. Institute of Ecology, University of Georgia. Athens, Georgia.

listed species and little evaluation of wetland reclamation. We disagree that the USACE rely on State reclamation requirements. Some of the reclamation techniques are not required by State law or rule at this time. The lack of evidence does not support continuing on the status quo process. If there are certain reclamation techniques that produce superior quality, then those should be included in the Final AEIS Mitigation Chapter. Additional comments are provided under the Mitigation Chapter below.

10. Section 4-12: The Manatee County Phosphate Mining Code, Ordinance 04-39 requires a Cumulative Impact Assessment be performed for proposed mining plans. One issue to be reviewed as part of this assessment is wetland loss and reclamation on five-year intervals. The use of the CLIP aggregate analysis gives an overview of the ecological importance and conservation value of a given site on a conceptual level but does not give specific information on wetlands or wildlife on an individual site basis or the effects of wetland loss on a cumulative temporal scale. An evaluation is needed that assesses the wetlands of each alternative, the loss of such wetlands and a cumulative analysis is needed for such loss until 2060. Use of the individual data layers, as recommended by the **Critical Lands and Waters Identification Project (CLIP): Version 2.0 Technical Report – January 2012** for both wetland and wildlife is needed to evaluate the site for present conditions and temporal scale changes.

    a. On Map A2-3 the CLIP aggregate Priority 1 and 2 areas do not extend to some areas of the 25-year floodplain. This is an example of the flaw in using this type of data model within the AEIS. The floodplain data layer is a subset of the surface water layer which is a subset of the aggregate data layer therefore valuable information is not shown. Again this is an example of why the use of the individual layers (such as Wetlands) of data would provide a more accurate picture of ecological resources.
    b. It is recommended that USACE provide comparisons between the alternatives using individual CLIP data layers.

11. Section 4.12.2: A purely wetland cumulative impact analysis to review functional loss and reclamation values is necessary. There has only been one study to evaluate the functional success of wetland reclamation (FDEP 2009, *Evaluation of Reclaimed and Released Mining Parcels,* presented at Peace River Basin Resource Management September 30, 2009 meeting). In this limited study, it was reported that the average UMAM score for reclaimed wetlands was 0.56 (average score of 0.66 if considering only wetlands released after 2005). This study did not address the likelihood of wetland mitigation reaching success or the temporal loss of wetlands.

    Furthermore, the FDEP reclaimed mining parcels study reviewed reclaimed wetlands at FLUCCS Level II. This is an inadequate analysis of wetland reclamation due to the reduced complexity of habitats at Level II. A recent study presented at the 2012

INTECOL Conference by Jason Lauritsen and Tim Burham[3] highlights the importance of identifying and mitigating specific and important wetland functions of wet prairies. It is critical to reclaim and mitigate to a Level III FLUCCS in order to avoid any unattended consequences of losses of specific wetland functions.

12. Section 4.12.2, Pages 4-187, Line 4: The Future Development Area Boundary was established with the adoption of the Comprehensive Plan in 1989, not too recent.

**Chapter 5: Mitigation:**

1. Section 5.3.2, Utilization of Soils: Manatee County staff requests that an accurate review of the utilization of native wetland topsoils be investigated. A comparison of mucked mitigation sites versus non-mucked sites should compare plant species richness and coverage, and wildlife use. Alderman Creek Bay Swamp Demonstration Project (referenced on page 5-7) is a good example of the use of wetland mucks; however, the same level of care and funding is not given to every reclamation unit. Availability of soils and storage and spreading logistics should be included in the review.

2. Section 5.3.4, Development of Appropriate Hydrology: Although there should be a mandate, the use of sophisticated integrated surface water/groundwater modeling is used when required by permit stipulation (e.g. Altman Parcel #4). Manatee County currently is the only agency requiring monitoring of post-reclamation hydrologic conditions as part of Phosphate Mining Code, Ordinance 04-39, Reclamation Manual. It has been demonstrated that successful reclamation begins with first successfully restoring the appropriate hydrology.

3. Section 5.3.7, Assessment of Mitigation Success: This item is of utmost concern to Manatee County. Manatee County staff agrees with the draft AIES statement (Page 5-8, lines 21-23) that an evaluation of wetland mitigation should use a functional analyses such as described in Section 5.3.6 and was disappointed to find no such evaluation in the draft AEIS. Although the federal Section 404 program does not have a minimum establishment period for regulatory release of mitigation wetlands (Page 5-5, lines 29-32), the industry's annual mitigation reports should be reviewed and a summary of current amount of wetland mitigation meeting success criteria (released and non-released) should be provided. Also, a functional evaluation should be performed of those wetlands and compared to impacted wetlands.

4. Section 5.5.2, Offsite Mitigation, Page 5-11: Manatee County staff found it curious that this section contained no discussion of reclaiming non-mandatory lands in the Peace

[3] Lauritsen, J and Burham, T. 2012. *Targeted Ecological Restoration Through Shallow Wetland Mitigation Banking with Wood Stork Benefits*, INTECOL Conference. Orlando Florida.

River basin as offsite mitigation, specifically targeting historic headwater wetlands and streams.

5. Section 5.9, Page 5-24, Lines12-22: Has any research been done on the reclamation of xeric scrub habitat other than the fact that it can support gopher tortoises? There are many rare and endemic plants and animals found in scrub that have very specific needs which may or may not survive on reclaimed scrub. Pressures from habitat fragmentation coupled with the temporal loss of functions and values on reclaimed scrub may have cumulative impacts on these species.

**Chapter 6: Compliance with Environmental Requirements:**

1. This Chapter should be expanded to include state and local regulation that may be applicable to phosphate mining in the CFPD. A copy of Ordinance 04-39, Manatee County Phosphate Mining Code is attached for reference.

**Chapter 7: References:**

A comment was previously provided via email to John Fellows, (Project Manager) on June 22, 2012 regarding the lack of availability of many of the references cited. Therefore, the comments provided in this letter are based on the draft AEIS and the references that were readily available at the time.

**Other:**

1. Add "buffers" to the Index.

**Appendix A: Site Aerial Photographs:**

1. Exhibit on page A3-3. Please verify that the perennial stream segments match those in the Soil Survey of Manatee County Florida. If they do not, please state why.

**Final Comments:**

Due to the substantial deficiencies, along with not providing references in a timely manner, (according to *Section 1502.21 CEQ Regulations)*, in the draft AEIS, Manatee County requests an interim draft AEIS or an addendum to the draft AEIS be produced prior to the final AEIS according to *Section 1502.9 CEQ Regulations.* We also recommend a group consultation with

USACE, affected Counties and NEP to review onsite and offsite alternatives and recommendations for mitigation prior to the release of the Final AEIS.

Thank you again for the opportunity to participate in the development of this area-wide EIS. If you have any questions or need any additional information, please feel free to contact Charlie Hunsicker, Director, Natural Resources Department at 941-745-3727 or email: Charlie.Hunsicker@mymanatee.org.

Sincerely,

Ed Hunzeker
County Administrator

Cc: Manatee County Board of County Commissioners
Donald Kinard, USACE, Chief, Regulatory Division
Duncan Powell, U.S. Environmental Protection Agency
William Clague, CAO
Manny Pumariega, TBRPC Executive Director
Ken Heatherington, SWFRPC Executive Director
Lisa Beever, Charlotte Harbor NEP Director
Mark Alderson, SBEP Director
Holly Greening, TBEP Director
John Osborne, Planning and Zoning Official, BDSD
Charlie Hunsicker, Director, NRD
Rob Brown, Division Manager, NRD
Alissa Powers, NRD
Mark R. Simpson, Water Division Manager, Utilities

Submission number 354

**From:** Birky, Brian [mailto:BBirky@admin.usf.edu]
**Sent:** Monday, July 30, 2012 3:21 PM
**To:** teamaeis@phosphateaeis.org; Gong, Steve/DFB; Kenty, Kerstin/TPA
**Subject:** comments on the radiation section of the AEIS
**Importance:** High

Dear AEIS Team:
My comments to the radiation section (chapter 3) of the draft AEIS are provided in the attached document. This section was very well done. I've provided some technical clarifications and suggested modifications to correct, clarify, and augment some statements. Thank you for this opportunity to comment on the draft.
˜incerely,

Brian K. Birky, Ph.D.
Interim Executive Director
Research Director - Public and Environmental Health
Florida Industrial and Phosphate Research Institute
1855 West Main St.
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**Radiation**

The second aspect which frequently receives substantive attention from stakeholders concerned about the effects of phosphate mining on public health is the question of increased exposure to radiation liberated from the ground by the mining of matrix, and the subsequent reclamation of mine cuts and clay settling areas. Radiation specifically related to phosphate mining has received substantive scrutiny by regulatory agencies, nongovernmental organizations, the mining industry, and the general public for many years. The material presented below is intended to inform AEIS reviewers of the state of knowledge regarding the relationships between natural background radiation levels found in this part of Florida and how those are changed by the phosphate ore extraction process and subsequent reclamation of clay settling areas and mine cuts with clay and sand generated during beneficiation.

In the context of this AEIS, human exposure to radiation occurs primarily because the physical and chemical processes that originally ~~formed~~ concentrated phosphate in significant quantities also concentrated uranium. As uranium decays, daughter nuclides are produced until a stable nuclide is formed (lead ~~206~~). One of the daughter nuclides formed and in equilibrium with uranium-238 in phosphate deposits is radium-226 ~~and~~, which ~~its daughter nuclide~~produces, radon-222 (radon gas). Radium can concentrate in bone and other tissues when ingested or inhaled, though the primary exposure is by direct gamma radiation emitted by radium-226 from sources outside of the body. Radon enters the body through inhalation and can damage lung tissue upon decay, but radon is an inert gas and its effect is more transitory than that of its solid daughters, like lead-210 and polonium-210, which deposit deep within the lung and deliver radiation for much longer periods.

Uranium activities in phosphate ores found in the U.S. range from 20 to 300 parts per million (ppm), or 7 to 100 picocuries per gram (pCi/g) (USEPA, 2011). Florida topsoil exhibits activities of 1-2 pCi/g of uranium-232 in equilibrium with radium-226, but activities up to ~~10~~ 47 pCi/g have been documented in topsoil over undisturbed phosphate deposits. Specifically, statistical analysis of 4,852 core samples taken from the first foot of soil on unmined lands by the Florida Department of Health, Bureau of Radiation Control indicated an average of 1 pCi/g Ra-226 with a standard deviation of 3 and a maximum of 47 (Birky, 2011). It is likely that the highest measurements indicate other disturbances, but measurements in the tens of pCi/g with no indications of disturbance were recorded. Matrix excavation brings material having higher

**Comment [bkb1]:** The uranium has been present since the formation of Earth itself. As phosphate deposits accumulated over time, the uranium in the environment tended to be concentrated with the phosphate.

**Comment [bkb2]:** Only one isotope of uranium, uranium-238, results in lead-206, but both the U-238 and U-235 decay chains end in a stable isotope of lead.



natural radiation levels to the surface, and subsequent material processing during beneficiation results in rock product, sand, and clay fractions having variable levels present.

***Background Radiation Exposure***

Exposure to radiation happens daily for all persons, through what are called ~~Normally~~ Naturally Occurring Radioactive Materials (NORM). NORM is found ubiquitously in the environment and includes: external radiation from solar and cosmic sources, external radiation from radionuclides in soils and rocks, internal exposure from inhalation of radon (and associated decay products), and internal exposure from radionuclides ingested through water, food, or other means (SENES Consultants Limited [SENES], 2011). Typical exposure rates for an average person living in the United States is about 310 millirems per year (mrem/yr), but it does vary based on location and habits (National Council on Radiation Protection & Measurements (NCRP), 2009). Well in line with the background exposure levels reported by the National Council on Radiological Protection [NCRP], 2009). Roessler *et al.* (1980) estimated typical background exposure in Florida to be 200 mrem/yr, with 73 percent of that dose estimated to be from inhalation of radon-222 (radon). NCRP (2009) estimated that man made sources of radiation accounted for a further 310 mrem/yr, bringing the total annual dose to about 510 mrem/yr. The major source of man-made exposure is medical, and is nearly equal to background (SENES, 2011).

***Phosphate Mining and Exposure Pathways***

Phosphate mining increases radiation exposure potential when naturally occurring radon/gamma radiation is disturbed by matrix excavation and brought closer to the surface where it can escape to the atmosphere. This is ~~Technically~~ Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). Exposure to radiation can be ~~either direct, such as through inhalation, or indirect through~~come from radioactive source outside of the body like cosmic radiation from space or radiation from materials in our environment like soil, air and water. We can also be exposed to radiation by taking radioactive materials into our bodies through inhalation, ingestion, or open wounds. Common exposure pathways ~~including~~ include ~~contact with soil, water, animal food sources, and food ingestion~~transfer of radioactive materials from soil and water to crops and then to prepared foods ,or similarly to forage crops and then to farm animals and food products derived from them .

**Comment [bkb3]:** The concept of direct vs. indirect exposure has been confused with other concepts here. Direct and indirect exposures have more to do with radiation biology and not the routes of exposure discussed here.

***Primary Exposure Pathway***

Radon in the atmosphere tends to dilute and dissipate from local outdoor areas, but it can concentrate in

indoor areas forming a potential health hazard. The primary exposure pathway is through inhalation. The USEPA has recommended an action level of 4 pCi/L for indoor environments (Price, et al., 2007). USEPA (2007) predicted that average indoor air concentrations for most counties in Florida are less than 2 pCi/L. In comparison, in other parts of the United States, such as northern and western states, concentrations routinely range from 2 to >4 pCi/L.
Figure 3-53 shows EPA-predicted indoor radon concentrations for counties located throughout the United States (USEPA, 2007).



*Source: USEPA, 2007*

**Figure 3-53. Predicted Indoor Radon Concentrations in Counties within the United States**

Although USEPA predicted no concentrations in Florida over the recommended action level of 4 pCi/L, it is noted that in some areas, such concentrations have been documented. The Florida Department of Health (FDOH) has gathered measurements of radon in indoor air of buildings within the state. SENES' analysis of a combined USEPA and FDOH data set for unattached homes in Florida from 1990 through 2004 found that indoor radon concentrations were most influenced by the underlying natural geology. This analysis revealed a band of higher indoor radon levels from the Gulf of Mexico coast to the center of the peninsula (median values from 0.76 pCi/L to 4 pCi/L), and lowest concentrations along the east coast (median concentrations 0 to 0.75 pCi/L). These findings were consistent with those of earlier studies (GEOMET, 1987), which also found variable concentrations throughout Florida, with county averages ranging from 0.3 pCi/L to 3.3 pCi/L and county maximums ranging from 0.7 pCi/L to 32.4 pCi/L. SENES reported that data from the FDOH database indicate that while radon release from reclaimed phosphate mined lands is higher than from unmined lands, the measured levels of indoor radon concentration are still lower than levels routinely found in unmined areas of the northern or western United States. SENES (2011) also reported that analysis of the FDOH databases shows these levels



found in buildings constructed over reclaimed lands are also within the range of values seen indoors in buildings constructed on undisturbed lands. SENES (2011) further mentions that the Florida Building Code is protective of this exposure pathway, which lowers risk of unacceptable exposure of indoor radiation. Maintaining a higher indoor ventilation rate lowers indoor exposure risk (Guimond and Windham, 1978).

***Secondary Exposure Pathways***

Soil represents a secondary pathway of exposure~~,~~ through ~~direct contact,~~ ingestion, such as a scenario of a child eating soil, or contact during outdoor activities. Guidry et al. (1986, 1990) gathered data on radium-226 levels in Florida soils and concluded that reclaimed lands containing clays contained the highest radium-226 levels. Additionally, these researchers concluded that the difference in radium-226 activities between mined and unmined lands is 5 pCi/g. The SENES (2011) analysis of FDOH data found that the difference was slightly lower at 4 pCi/g. In contrast, USEPA reported that its review of 30 years of field measurements suggest that Florida phosphate mined areas can have surficial soils levels of radium from 20 to 45 pCi/g higher than unmined areas (with activities of 1-2 pCi/g) (personal communication, J. Richards, 2012). Statistical analysis of 3,087 core samples taken from the first foot of soil on unmined lands by the Florida Department of Health, Bureau of Radiation Control indicated an average of 6 pCi/g Ra-226 with a standard deviation of 6 and a maximum of 63 (Birky, 2011).

Water is another secondary pathway of exposure. The primary drinking water standard for radium (inclusive of radium-226 and radium-228) is 5 pCi/L. This means any municipal drinking water source cannot exceed this level. To assess private wells, Watson et al. (1983) compiled data on the Radium-226 concentrations in various drinking water sources in the United States. Concentrations in Florida varied from 0 to 4.1 pCi/L for all municipal and private wells surveyed, except one which exhibited a range of 0 to 76 pCi/L. For surface waters, average values ranged from 0.06 to 5.1 pCi/L (Irwin and Hutchinson 1976, Kaufman and Bliss 1977, Fanning et al., 1982). A review of the most recent (2011) FDEP drinking water monitoring data shows a range of 0 to 12 pCi/L for radium-226, and a range of 0 to 5.1 pCi/L for radium-228 (accessed from http://www.dep.state.fl.us/water/drinkingwater/chemdata.htm).

Ingestion of fish and waterfowl represent a third potential ~~indirect~~ pathway of exposure. Measurements of radium-226 in fish captured from lakes created through phosphate mine reclamation were examined by Grove (2002); no statistical difference in radium-226 was found when compared to fish from non~~27~~ 27 impacted lakes. Similarly, Montalbano et al. (1983) and Myers et al. (1989) studied the radium-226

28 dosage from the consumption of water fowl. Water fowl from phosphate mining impacted areas and non29
29 impacted areas were compared. Based on the amount of duck that would have to be consumed (1-2
30 kg/day) to achieve a dose equivalent to the daily consumption of water at the 5 pCi/L limit, it was concluded by the researchers that this does not
31 represent a significant exposure pathway compared to the consumption of ducks elsewhere.
32 A fourth ~~indirect~~ internal exposure pathway is other food consumption. Guidry et al. (1986, 1990) concluded that plants
33 grown on reclaimed lands exhibited a higher ~~radiation value~~content of radioactive materials (5.2 ~~picoCuries per gram (piC/g) for~~pCi/g Ra-226, 8.5 PCi/g Pb-210, and 7.5 pCi/g for
34 reclaimed lands versus 0.6 pCi/g Ra-226 and below detection for the other two for the control lands), and a person consuming these plants would have
35 an exposure increase of ~~2.7~~less than one mrem/yr, versus a person who did not consume them. Old clay lands that were not reclaimed had 16 pCi/g Ra-226, 23 pCi/g Pb-210 and 19 pCi/g Po-210. A person who included as much food as possible from foods (21 crops) grown on this land would still only get a dose of less than 3 mrem/yr. This increase in

**Comment [bkb4]:** The term "picocuries" should be spelled out at first usage in the text, and the c in curies is used in lower case to distinguish the unit of measurement from the scientists it was named after. The radionuclide being measured must also be named, because there are others present at different concentrations. The others measured in the study need to be included because they are important dose contributors. I did the dose assessment for this study, so consider these as comments from an author of the study.



1 exposure is below the USEPA maximum recommended annual dose above background of 15 mrem/yr.
2 This USEPA recommendation is relatively restrictive. In comparison, the maximum recommended annual
3 dose above background is 100 mrem/yr based on recommendations advocated by the FDOH, the
4 International Commission on Radiological Protection (ICRP) and the U.S. NCRP.
5 **Risk of Mining-Related Radiation Effects**
6 Overall, the risk of mining related exposure to radiation is low. Exposures in field operations are reduced
7 because of aerial dispersion. Radon gas levels in buildings constructed on reclaimed mine cuts may be
8 elevated but not to the levels considered to represent a health risk as long as adequate ventilation and
9 compliance with Florida Building Code requirements is maintained. Secondary exposure mechanisms
10 also represent a low level of risk of adequate exposure to anticipate public health issues.

Submission number 355

-----Original Message-----
From: sarah [mailto:sarahh17101@earthlink.net]
Sent: Monday, July 30, 2012 10:25 PM
To: phoshate
Subject: Fw: AEIS public comment

-----Forwarded Message-----
>From: sarah <sarahh17101@earthlink.net>
>Sent: Jul 30, 2012 9:22 PM
>To: "teamaeis@phosphateaeis.org" <teamaeis@phosphateaeis.org>
Subject: AEIS public comment
>
>Sarah Hollenhorst
>863-993-3568
>
>I feel the AEIS draft is not in compliance with the Estuary Protection Act of 1968. As the mine sites fall within the CHNEP boundaries, and the mines will permanently alter and disturb the most importaant fresh water resource to The Peace River, the freswater source to the CHNEP. Horse Creek is that freshwater resource, as are to a lesser extent other creeks which will also be affected or destroyed by the mines. The loss of resources due to mining of upper Horse Creek highlight the essential value of Horse Creek to CHNEP.Coordination has been not impartial. DEP has shown prejudice toward the mining industry as emphasised by programs promoting the Peace River which were in effect promotionary propoganda for Mosaic, and by the hostile attitude of representatives of DEP toward public questioning of the wisdom of mining within the Peace River Watershed, and by declaring Horse Creek only an intermittant stream during a period of drought, underscoring its value to the Peace River and estuary freshwater supply.
>  I feel the AEIS is not in compliance with the Solid Waste Disposal Act of 1965 as it states that phosphate mines are not generators of solid waste, that sand and clay residuals are to be used as part of the land reclamation process, when in fact the residuals will have been brought to the surface and will be radioactive, with a greater radon composition than surface sand and soil, and should not be allowed to be concentrated and particles should not be available to wind drying and blowing them. The mines are near and within populated areas.
>  I feel that Mosaics past mining practices have not complied with the Clean Air Act of 972 as neighbors have complained that the exposed dust, radioactive, has been allowed to ɹlow without effort at control, and despite complaints.
>  I believe as per Executive Order 11988-floodplain management that the only practicle alternative in order to avoid direct and indirect development of floodplain development in

this case, as the area is subject to extreme variations from drought to flooding, endangering the water supply and local residents with the threat of broken berms of large slime ponds, is no action.

> I believe the Migratory Bird Treaty Act of 1918 and the Migratory Bird conservation Act of 1929 will be violated as the areas to be mined are not only nesting areas historically for threatened, endangered, and migratory birds, but also historical feeding grounds for nestling support. Bald Eagles use the same nests historically, are subject to disturbances, and the destruction of areas near historical nesting sites violates the Bald and Gollden Eagle Protection Act of 1940, as amended.

> I believe the draft and plan is not in compliance with the Endangered Species Act of 1973 as by directly affecting the waterhed of the CHNEP it is likely to jeopardize the continued existence of endangered and threatened species or result in the destruction or adversely modify the habitat of such species. One species as an example is the manatee and its dependence on sea grass beds.

> I believe the Rivers and Harbors Act of 1899 is violated by the draft as the construction of the mines will cause the deposit of material in the Peace River. I believe Horse creek needs to be reevaluated as to its value within the estuary watershed and further alterations or changes to the wetlands and uplands that supply the freshwater to it should be halted.

> These mines will permanently alter the landscape of desoto county, endanger the health of its citizens, stress the watersupply to the region, remove valuable range land, and endanger the charlotte harbor estuary. I believe all permits should be denied.

Submission number 356

**From:** Thomas Marciniak [mailto:themarciniaks@comcast.net]
**Sent:** Monday, July 30, 2012 9:58 PM
**To:** teamaeis@phosphateaeis.org
**Subject:** Fw: Comments to Area Environmantal Impact Statement

Dear Mr. Gong:

We would like to urge the ACE team to consider the following issues absent or lacking from the draft study.

We would like to urge the Corps to recognize the multiple impacts on our groundwater and our surface water and wetlands from mining.

We would also like to ask for an analysis of wetland and stream damage and the problem of long delays in replacing these important features.

We would like to ask the Corps for a full study of the impacts of gypstacks and their spills.

We would also like it ecognized that Florida phosphate mining is not necessary for US or world fertilizer production.

It should also be noted that Florida mining is being subsidized by Florida taxpayers and the Florida environment.

We would appreciate your inclusion of the above issues in the final AEIS.

Sincerely,

Thomas G. Marciniak

Pamela R. Marciniak

40 Colony Point Drive

Punta Gorda, FL 33950

Submission number 357

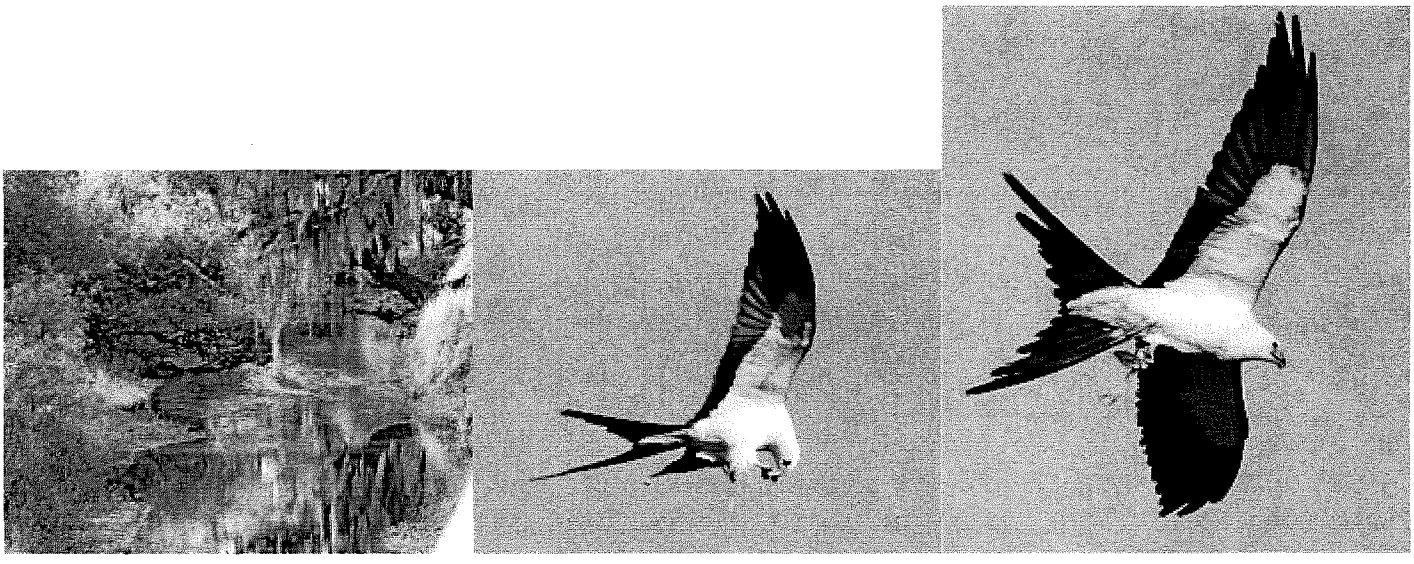
**From:** ET Mizuno & L Weintz [mailto:mizweintz@gmail.com]
**Sent:** Monday, July 30, 2012 9:29 PM
**To:** John.P.Fellows@usace.army.mil
**Cc:** teamaeis@phosphateaeis.org
**Subject:** DAEIS Comment

I had the opportunity to view what phosphate mining does to Florida and how the companies mitigate the effects of drag line mining. The companies replace vegetation but cannot restore the ecology nor the impact to wildlife. We use phosphate fertilizers for our orchids but would gladly forgo orchids to obviate the effects of phosphate mining in our state. The effects of phosphates in our canals is clearly visible and detrimental. The vork of the ACE is so important to the vitality of our country and they should carefully consider the deleterious effects of drag line mining on our natural resources in Florida.

Submission number 358

**From:** hrbrwlk@comcast.net [mailto:hrbrwlk@comcast.net]
**Sent:** Monday, July 30, 2012 7:31 PM
**To:** TeamAEIS@PhosphateAEIS.org
**Subject:** Fwd: Phosphate Area Wide Impact Statement

**From:** hrbrwlk@comcast.net
**To:** teameais@phosphateaeis.org
**Sent:** Monday, July 30, 2012 7:23:21 PM
**Subject:** Phosphate Area Wide Impact Statement



The attached images are from Charlotte County Prairie Creek Environmental Area very close to the DeSoto County line. They were recorded May 24, 2012.

As seen om the image Prairie Creek is really quite low. My point is that even minimal impact on the tream flow could have a substantial effect on such an already diminished water flow and possibly this Prairie Creek Environmental Area.

The environmental impact statement seems quite limited in only considering Florida Scrub Jays (which are quite common in this area), a Sparrow and Crested Caracara as birds of concern.

The Swallow-tailed Kites pictured the same day snatching tree frogs for in air snacks are one example of the environmental diversity afforded by the carefully saved environmental areas in Southwest Florida. It is a thrill for some people to witness these activities and a part of what makes Florida a desirable place to live.

I did not see any discussion in the impact statement about the effect of diminished water flows in the area as far downstream as Charlotte County or the potentially disastrous effect on expensively acquired properties such as Prairie Creek Preserve which are a part of environmental ambiance of Florida living.

James Comfort
200 Harbor Walk Dr Unit 144
Punta Gorda, FL 33950

941 505 0206
hrbrwlk@comcast.net

Subr. on Tracking

| | |
|---|---|
| **Submission Number:** | 000000359 |
| **Received:** | 07/31/2012 10:39:41 AM |
| **Organization:** | Florida Department of Agriculture and Consumer Services, Adam Putnam |
| **Commenter Type:** | State Agency |
| **Classification:** | Substantive |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

Zoom

General
Mr. John Fellows, Project Manager
Army Corps of Engineers
Draft AEIS Comments
USACE—Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610
Dear Mr. Fellows:

<([#1 [34]The Florida Department of Agriculture and Consumer Services (FDACS) is responsible for maintaining the continued strength of Florida's agricultural industry. The agriculture industry is the strongest pillar of Florida's economy, generating more than $100 billion in annual economic benefits, employing nearly one million people and producing nearly 300 commodities that are shipped globally helping to maintain the nation's favorable agricultural trade balances.

It's no secret that nearly all agriculture, whether row crops, nursery plants or animal husbandry, depends on a producer's ability to grow food and fiber. Crop nutrients, including phosphate, are an essential ingredient to the success of Florida's agriculture industry.

Florida is blessed with abundant phosphate resources that serve not only our farmers, but farmers around the globe as they generate the world's food supply. This resource is vital to Florida, the United States and the global community. #1])> <([#2 [17]As we continue to tap our state's phosphate reserves, mining must be conducted responsibly. Regulatory agencies play an important role, on behalf of the public, to ensure that impacts to our vital ground and surface water resources are minimized during the mining process.
#2])>
The U.S. Army Corps of Engineers, in cooperation with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection, recently released a draft Areawide Environmental Impact Statement (AEIS), evaluating the environmental impacts of future phosphate mining in Florida. FDACS commends the agencies for its objective evaluation of this

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52609 |
| **Hide Submitter:** | |
| **Commenter Type:** | State Agency |
| **Name Prefix:** | |
| **First Name:** | Adam |
| **Last Name:** | Putnam |
| **Name Suffix:** | |
| **Title:** | Commissioner |
| **Organization:** | Florida Department of Agriculture and Consumer Service |
| **Division:** | Not Applicable |
| **Address Line 1:** | The Capitol, Plaza Level |
| **Address Line 2:** | |
| **City:** | Tallahassee |
| **State/Province:** | Florida |
| **Postal Code:** | 32301 |
| **Country:** | |
| **Phone:** | 850-488-3022 |
| **Fax:** | |
| **Email:** | Adam.Putnam@FreshFromFlorida.com |
| **Number of Additional** | 0 |

Submission number 359

import[illegible]e.

As the agencies review comments submitted and work to finalize the AEIS, sound science must prevail over political pressure. Any changes made to the findings or the conclusions of the study must be rooted in sound science, based on proven and relevant scientific studies offered through the comment process.

<([#3 [16]The nation's agriculture industry depends on domestic sources of phosphate from Florida and, by extension, so does the nation's food supply. I encourage you to complete the environmental assessment as expeditiously and objectively as possible.

#3])> Thank you for the important work you are doing on this issue.

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
COMMISSIONER ADAM H. PUTNAM
THE CAPITOL

RECEIVED
JUL.20
Tampa Regulatory Office

July 27, 2012

Mr. John Fellows, Project Manager
Army Corps of Engineers
Draft AEIS Comments
USACE—Tampa Regulatory
Office 10117 Princess Palm
Drive, Suite 120 Tampa,
Florida 33610

Dear Mr. Fellows:

The Florida Department of Agriculture and Consumer Services (FDACS) is responsible for maintaining the continued strength of Florida's agricultural industry. The agriculture industry is the strongest pillar of Florida's economy, generating more than $100 billion in annual economic benefits, employing nearly one million people and producing nearly 300 commodities that are shipped globally helping to maintain the nation's favorable agricultural trade balances.

It's no secret that nearly all agriculture, whether row crops, nursery plants or animal husbandry, depends on a producer's ability to grow food and fiber. Crop nutrients, including phosphate, are an essential ingredient to the success of Florida's agriculture industry.

Florida is blessed with abundant phosphate resources that serve not only our farmers, but farmers around the globe as they generate the world's food supply. This resource is vital to Florida, the United States and the global community. As we continue to tap our state's phosphate reserves, mining must be conducted responsibly. Regulatory agencies play an important role, on behalf of the public, to ensure that impacts to our vital ground and surface water resources are minimized during the mining process.

The U.S. Army Corps of Engineers, in cooperation with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection, recently released a draft Areawide Environmental Impact Statement (AEIS), evaluating the environmental impacts of future phosphate mining in Florida. FDACS commends the agencies for its objective evaluation of this important issue.

As the agencies review comments submitted and work to finalize the AEIS, sound science must prevail over political pressure. Any changes made to the findings or the conclusions of the study must be rooted in sound science, based on proven and relevant scientific studies offered through the comment process.

The nation's agriculture industry depends on domestic sources of phosphate from Florida and, by extension, so does the nation's food supply. I encourage you to complete the environmental assessment as expeditiously and objectively as possible.

Thank you for the important work you are doing on this issue.

Sincerely,

Adam H. Putnam
Commissioner of Agriculture

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000360 |
| **Received:** | 07/31/2012 10:43:24 AM |
| **Organization:** | molly leslie |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

General

<([#1 [49][7]My comment is short and to the point, I dont think you should allow phosphate mining so close to The Horse Creek, Peace River and Charlotte Harbor, we are in a water crises and if it's allowed more mining we will have less water and possiblly dirty water. STOP THE PHOSPHATE MINING - In DeSoto County..
Molly E. Leslie
#1])>

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52610 |
| **Hide Submitter:** | |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | molly |
| **Last Name:** | leslie |
| **Name Suffix:** | |
| **Title:** | |
| **Organization:** | |
| **Division:** | Not Applicable |
| **Address Line 1:** | 6318 zeno circle |
| **Address Line 2:** | |
| **City:** | port charlotte |
| **State/Province:** | Florida |
| **Postal Code:** | 33981 |
| **Country:** | |
| **Phone:** | 941 276 5631 |
| **Fax:** | |
| **Email:** | mollyeleslie@gmail.com |
| **Number of Additional Commenters:** | 0 |

Submission number 360

Submission number 362

# Florida House of Representatives


## Ben Albritton

**State Representative, District 66**

District Office:
150 North Central Avenue Bartow,
Florida 33830 Office: 863-534-0073
Fax: 863-534-0075
ben.albritton@myfloridahouse.gov

Tallahassee Office: 1301 The Capitol 402 South Monroe Street Tallahassee, Florida 32399-1300 850-488-9465


John Fellows, AEIS Project Manager
Army Corps of Engineers
Draft AEIS Comments
USACE — Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610


RECEIVED

JUL 5 2012

Tampa Regulatory Office


July 23, 2012

Dear Mr. Fellows:

I'm a lifelong Hardee County resident and currently have the honor of serving as Hardee County, South Polk County and Northwest Highlands County's representative in the Florida House of Representatives. District 66, which I represent, includes the footprint of two of the four mining project applications being considered in the Phosphate Areawide Environmental Impact Statement (AEIS). Additionally, three other current phosphate mining operations reviewed by the study fall within my district. Please accept these comments for the record on the Areawide Environmental Impact Statement and relevant permit applications associated with the study.

Hardee and Polk Counties have relied on the phosphate industry as one of our largest employers for generations. Rural regions like Hardee County are often the hardest hit in times of recession. In Hardee, our largest employer is the government and as state budgets have contracted and positions were eliminated, many of our residents now find themselves without jobs. Fortunately, the phosphate industry is also one of our county's top employers. While other industries have struggled through these times, Mosaic and CF Industries prospered and their prosperity provides benefits to everyone through their community engagement efforts.

Regulatory processes and the litigation that often follows can have devastating effects on rural areas like Hardee and southern Polk County. The South Fort Meade litigation and temporary job losses associated with it had a tremendous impact on my district. Special interest groups will do what they are going to do, but the Corps, EPA and Florida DEP have a duty to ensure the integrity of the AEIS and subsequent

permitting processes for these projects. I encourage these agencies to maintain a collaborative approach with the applicants to address any concerns that arise without creating unnecessary controversies on issues that can be resolved through thoughtful negation and discussion. As we saw with South Fort Meade, agency interactions on issues that could be resolved through discussion can become the fuel for litigation that ultimately harms families within my district. After much stress and strain, the families that depend on that facility now have security for the next ten years, but the financial hardships they faced were not necessary.

It's my hope that the agencies will act in good faith as they review these projects. I hope the Corps, EPA and DEP will consciously work to maintain the integrity of the entire process, so that the process cannot serve as a weapon for outside interests to attack the economic well-being of my constituents. It's important that you hear and evaluate all concerns in this process, but it's also vitally important that you recognize that how you deal with those concerns affects more than just the applicant and those special interests. Thousands of families in my district are depending on this.

On behalf of my constituents, I thank you for the effort you are putting into a proper evaluation of this issue.

Sincerely

Ben Albritton
State Representative

District 66

BAW/klw

Submission number 365

| | |
|---|---|
| **Submission Number:** | 000000365 |
| **Received:** | 07/31/2012 01:14:49 PM |
| **Organization:** | Carol Mahler |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Substantive |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52615 |
| **Hide Submitter:** | |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Carol |
| **Last Name:** | Mahler |
| **Name Suffix:** | |
| **Title:** | |
| **Organization:** | |
| **Division:** | Not Applicable |
| **Address Line 1:** | P. O. Box 1644 |
| **Address Line 2:** | |
| **City:** | Nocatee |
| **State/Province:** | Florida |
| **Postal Code:** | 34268 |
| **Country:** | |
| **Phone:** | |
| **Fax:** | |
| **Email:** | carolmahler3@gmail.com |
| **Number of Additional Commenters:** | 0 |

Chapter 1 - Project Purpose and Need

The following comments concern statements in Chapter 1 and Chapter that are related, so I am placing them here under Chapter 1, since they address the "Project Purpose and Need": The United States Army Corps of Engineers should reconsider Section 2.2.5.2 Alternatives Avoiding the Use of Phosphate Fertilizer. The first sentence, "The USACE has determined that this alternative would not meet the project purpose and need" is not supported. The USACE relied on the companies whose Clean Water Act Section 404 permits from the U.S. Army Corps of Engineers are under review to state the purpose and need. In section 1.2.2.1, the "need" for phosphate mining is directly tied to large-acreage, agribusiness farms. However, the United Nations recent report on global economics

stated: "There is overwhelming evidence that 'efficient' (industrial) agriculture is not only mining the natural resource base but also influencing other parts of the environment in ways that are detrimental to the well-being of humankind." In addition, the United State Department of Agriculture finds that small farms generate nearly 40% of the value of farm products in the U.S. Many of these small farms use methods of fertilization that do not use phosphorus obtained from mined phosphate rock. (USDA ERS September 2000. *ERS Farm Typology for a Diverse Agriculture Sector.* Agriculture Information Bulletin Number 759.) Some are part of the growing Community Supported Agriculture farm movement that between 1990 and 2004, these farms increased 30 times (McFadden, Joe, "The History of Community Supported Agriculture, Part II"). Even discounting the incredible growth of Community Supported Agriculture, mining phosphate rock in Florida is not necessary for the U.S. or the world according to the AEIS itself: "Even with the decline of Florida phosphate rock production and the anticipated increase in worldwide demand, there does not appear to be a worldwide shortage of phosphate rock" (p. 1-11, lines 10-11). A contradiction also appears to state that the U.S. must import phosphate for its needs (p. 1-11, lines 15-16); yet almost half of the "wet process phosphoric acid" produced in the U.S. is exported (p. 1-9, lines 33-36). Stockpiling the amount exported would seem a better safeguard than new mines against the predicted demand for fertilizer, especially when future trends in agriculture may not require it. This logic contradicts the "stated purpose and need" provided by CF Industries' South Pasture Extension (SAJ-1993-01395) application: "Continued mining of phosphate rock is therefore critical to the agriculture industry as well as the general population both U.S. and globally. Maintaining a domestic food supply is also important to national security" (p. 1-16, lines 18-20).

Chapter 2 - Alternatives

The section that deals with "Residential Setback Screening" (pp. 2-63-64), includes Table 2-15 with the setback requirement from "an officially designated historical site which is not located within the mine boundary," but it does not give the setback for those historical sites which are within the mine boundary. For example, p. 3-156, line 20-21 states, "For the Desoto Mine location, the studies documented four sites that are eligible for listing on the NRHP and will be avoided by any proposed mining activities." However, no specifics were included to explain what that "avoidance" entails. On page 3-157, the townsite of Pine Level--the original county seat of DeSoto County and also a "freedmen" site after the Civil War--8DE14--is missing in the list from the analysis of sites for the DeSoto as well as Pine Level/Key Tract Mines even though it was included in the AMAX Pine Level Survey of 1979 and was recommended as eligible for the National Register in that study and the most recent work on the site: "Historical Archaeology of the Pine Level Site (8DE14), DeSoto County Florida," a University of South Florida Master's Thesis by Jana J. Futch completed in 2011. Some of the original townsite is privately owned, but the northern one-third is part of Mosaic's holdings for the DeSoto Mine. In addition, although Section 4.11.9 Aesthetics mentions the effects of the mine on "outstanding scenic areas" and Duette Preserve (lines 6-9, p. 4-167), it does not consider the aesthetic effect

of phosphate mining on historical/cultural resource sites, such as 8DE14, the original townsite of Pine Level.

Except for Chapter 2, Alternatives, no mention is made of Myakka River State Park in the entire AEIS, and even then it is not even mentioned by name, but only indicated in the Myakka River Watershed in Figure 2-9. p. 2-20. Both the descriptions of the "Myakka River Basin" on p. 3-28 and the "Myakka River Watershed" on p. 4-188 mention the SWFWMD's acquisition of Flatford Swamp but neglect to mention the Myakka River State Park or the many conservation easements and other conservation lands clearly marked, but not named, in Figure 2-7, p. 2-18. Myakka River State Park and "Myakka Island" are integral parts of the Myakka River Watershed and should not be omitted.

Chapter 3 - Affected Environment

The "Wild and Scenic River" designation for the Myakka River as it flows through Myakka

River State Park is only mentioned on p. 3-83. The "Cumulative Effects on Myakka River Discharges from Proposed Mine and Reasonably Foreseeable Mine" notes only the small percentage of decrease and the small percentage of water that the Myakka River contributes to the Charlotte Harbor Estuary (p. 4-235). The AEIS states " Water quality in the Myakka River is generally considered good, although a variety of human activities have impacted the river" (lines 24-25, p. 4-198). Because the water has already been degraded by human activities, no further degradation should be permitted--even the slight 13 cfs projected (line 12, p. 4-235) as well as other effects detailed throughout the chapter

and in Appendix E. This seems to be counter to the SWFWMD's Myakka River Watershed Initiative.

In addition, Section 3.3.7.7 Public Health, under the subsection "Air Quality and Noise," outlines only "fugitive dust and noise" (line 10, p. 3-149), but does not consider the air quality effects of the increased electric or other energy needed for the approximately 25-miles of pipeline that will convey the water pumped from the FAS at the Fort Green Mine, now closed, to the proposed DeSoto Mine/Pine Level/Keys Mine and the increased energy needed for the four proposed phosphate mines. These energy demands certainly will impact the air quality of the region and

should be considered in the AEIS.

Finally, in Section 3.3.7.3 Demographics and Environmental Justice, the definition of the environmental justice is " the fair treatment of people of all races, income, and cultures with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (lines 2-3, p. 3-132). The demographics and general area of residency of "minority" populations are summarized for DeSoto, Hardee, and Manatee counties, but no effort is given to understanding the effect of the mines on families who continue to live on property their families originally homesteaded in the late nineteenth and early twentieth centuries. Regardless of their level of prosperity, these heritage families are recognized and appreciated for their special contributions by the Florida Department of Agriculture's Century Pioneer Family Farm Program (www.florida-agriculture.com).

Although only its watershed and not its actual location is the Central Florida Phosphate District (CFPD), Myakka River State Park raises the issue of tourism, which is only mention in two places in the AEIS: pp. 184 and 199 in Chapter 4. On page 184, Mosaic's substantial investment in "Streamsong, a self-contained 16,000-acre destination ecotourism facility" underlines the popular economic-development strategy of ecotourism in the CFPD. In contradiction, lines 23-27 on page 199 note that tourism is confined to the coastal area rather than the CFPD: "Particularly along the coastal corridor, tourism is a substantive driver behind the local economy, and accordingly a high level of emphasis is awarded to protection of the environment against the cumulative effects of land conversion from natural land uses to those associated with agriculture, mining or other industrial activities, and urban or residential development. Environmental quality is a key factor in promoting seasonal or shorter-term tourism-based economic productivity."

Florida's Freshwater Frontier, Inc., is "the tourism marketing corporation for the South Central Florida regional economic development organization known as Florida's Heartland REDI, Inc. (FHREDI)." It focuses on "ecotourism" in the region. In addition, a study by the University of Florida/IFAS entitled "Economic Contributions of Agriculture, Natural Resources, and Related Industries in Florida Counties" included "nature-based recreation/eco-tourism."

The AEIS mentions a "pipeline conveyance" for water pumped from the Florida Aquifer System at the Fort Green Mine, now closed, to the proposed DeSoto Mine/ Pine Level/Keys Mine on line 29, page 4-9, line 26, p. 4-75; line 6, p. 4-81; lines 9 and 24, p. 4-82. No discussion is given of the site for the approximate 25-mile route, its capability, or potential for leaks; nor does it discuss the energy expended in pumping the water that distance when figuring the cost of energy.

Chapter 10 - Glossary

In Chapter 10, Glossary, "fertilizer" on line 22-23 of page 10-6, is defined with a huge bias toward phosphate mining as "mineral materials" whereas a standard dictionary definition is "a substance (as manure or a chemical mixture) used to make soil more fertile." The root word "fertile" means "producing or bearing fruit in great quantities" and derives from the Latin word "to carry or bear" and has been in use in the English language since the 15th century (Merriam-Webster Dictionary online: www.merriam-webster.com).

Chapter 11 - Index

In Chapter 11, Index, please include in the place names throughout the CFPD to help residents to quickly locate any mention of their neighborhoods included in the discussions of the AEIS.

Submission number 366

**From:** Marilyn Goodwin [mailto:mochaboo@embarqmail.com]
**Sent:** Tuesday, July 31, 2012 10:53 AM
**To:** John.P.Fellows@usace.army.mil; teamaeis@phosphateaeis.org
**Subject:** Draft AEIS

I'm a resident of Charlotte County, and I am concerned that this study has not taken into account all of the negative impact that future phosphate mining can cause. If we do not at least curtail future mining, not only will our quality of life, but our economic well being will be in jeopardy. Please consider the comments made by the environmental groups. You hold our futures in your hands. Please act responsibly!

Marilyn Goodwin
Punta Gorda

Submission number 367

**From**: Marvin Medintz [mailto:medintzm@yahoo.com]
**Sent**: Tuesday, July 31, 2012 05:26 AM
**To**: Fellows, John P SAJ; Steve Gong <Steve.Gong@CH2M.com>
**Subject**: Fw: phosphate

Good morning. I am forwarding a note I received in response to a notice about your phosphate DAEIS.

Percy Angelo

--- On **Tue, 7/31/12, Mary-Bruce Sondergaard <*Mbsondergaard1@me.com*>** wrote:

From: Mary-Bruce Sondergaard <Mbsondergaard1@me.com>
Subject: phosphate
To: medintzm@yahoo.com
Date: Tuesday, July 31, 2012, 3:49 AM

I am not sure how to respond to the email but your name is on it so I will let you know that I am absolutely opposed to add more phosphate mining to Florida. We are a pleasure state and need clean water an harbors this does not seem to add to the beauty of the state or the health of the water. No thanks for this tax payer.Mary Bruce Sondergaard, Punta Gorda

Submission number 368

**From:** Kevin P Wayne [mailto:kevinwayne@comcast.net]
**Sent:** Tuesday, July 31, 2012 10:14 AM
**To:** John.P.Fellows@usace.army.mil
**Cc:** teamaeis@phosphateaeis.org
**Subject:** Areawide Environmental Impact Statement for Phosphate Mining

Sirs,

It seems to me that the intended publication, which is about to be released concerning phosphate mining may be either bias or limited. It appears that the corps is purposefully limiting important information which should be included included in the ***Draft Areawide Environmental Impact Statement*** for phosphate mining.

As a citizen of Florida and the United States of America, it is important to me to have a full understanding of mining impacts on the environment. This should include multiple ***detailed*** impacts upon our surface water and wetlands from mining and not only the "short term"; but also the long term impacts for-seen. It should be recognized if mining is associated with fertilizer production. The latter then making it important to recognize gypstacks and their spills in the Draft Areawide Environmental Impact Statement for phosphate mining.

The (DAEIS) for Phosphate Mining should certainly include any information and recognition of Florida taxpayer subsidies directly or indirectly associated with the industry.

If further studies are necessary before publication of a proper (AEIS), then they should be done. The delay of publication is easily forgiven to trade for accuracy in information. Additionally, a two-part report would be more acceptable than a report which does not include important information to the people.

Please remember a "...government of the people, by the people, for the people..." is one of our most important values. I hope that the final report published will truly be geared to inform the people.

Respectfully,

Kevin P Wayne

Submission number 369

# MANATEE COUNTY
## FLORIDA

RECEIVED
JUL 31 2012
Tampa Regulatory Office

July 25, 2012

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610

Re: Central Florida Phosphate District Draft Area-wide EIS

Dear Mr. Fellows:

Manatee County government wishes to thank the United States Army Corps of Engineers (USACE) for the opportunity to provide comments on the Draft Area-wide Environmental Impact Statement (AEIS) for the Central Florida Phosphate District (CFPD). An Environmental Impact Statement is intended to be sufficient in scope to address federal, state and local requirements and environmental issues concerning the Proposed Actions (i.e., Wingate East Mine, Desoto Mine South Pasture Mine, and Ona Mine). Currently Manatee County has over 20,000 acres of permitted phosphate mining, with the potential for an additional 25,000 acres. Therefore, the proposed AEIS has significant implications on Manatee County's continued environmental and economic health.

In reviewing the draft AEIS, Manatee County staff has considerable concerns regarding several areas of defects and omissions. Specific and substantive comments are provided below and are organized by AEIS chapters. It should be noted that this technical review is provided by Manatee County staff and does not represent the views or positions of the Board of County Commissioners.

**Executive Summary:**

1. ES.6.1: The Executive Summary makes the statement that "*comparative analysis were performed of the relative effects of imposing these conceptual buffer areas around wetlands that scored high using either WRAP or UMAM...*" Besides this paragraph in the Executive Summary and Tables ES-9 and ES-11, further discussion of the analyses was not found in the draft AEIS.

Office of the County Administrator
Mailing Address: P. O. Box 1000 Street Address: 1112 Manatee Avenue West, Bradenton, FL 34206-1000
WEB: *www.mymanatee.org* * PHONE: 941.745.3717 * FAX: 941.745.3790

2. ES.6.2.2 (Chapter 3, Chapter 4, and Appendix E): The AEIS makes conclusions regarding the effect proposed mining will have on surface water flows based on an annual average basis. As the Peace River (Horse Creek basin) and the Myakkahatchee Creek serve as sources for significant public potable supplies, using the effect on the annual average flow is an inadequate approach. The flows of these rivers are highly seasonal, with the vast majority of the flow coming in the four month rainy season. Prolonged dry seasons of much less than average flow are the norm. The analysis of mining impacts on these rivers needs to be based not on average annual flow but on a seasonally adjusted flow regime similar to those used in the Southwest Water Management District's approach to setting minimum flow for these rivers. Any analysis that shows 'minimal effect" has to show that there is minimal effect on the low flow periods and that the base flows reserved for the environment (i.e., 67cfs at the Middle Peace River Arcadia Gage) are protected. Showing 'minimal' effect on average annual flow does not assure that low flows will not be impacted. This takes on added significance if a predicted shift to less frequent, but higher intensity rains occur with global climate changes.

**Chapter 1: Project Purpose and Need:**

1. Manatee County recognizes that phosphate is an essential ingredient in fertilizer and that the Central Florida Phosphate District (CFPD) contains the most extensive phosphate deposits in the United States. Manatee County also recognizes that unregulated mining can cause impacts on habitat, water quality and water quantity. However, the AEIS fails to provide practical alternatives that both preserve existing onsite natural resources and permit recovery of otherwise mineable phosphate reserves. Manatee County recommends that the AEIS contain a clear Environmentally Preferable Alternative that balances environmental values and functions with the phosphate mineral in order to address NEPA Section 101. As there was no recommended Environmentally Preferable Alternative provided in the Draft AEIS, Manatee County, as a commenting agency, recommends the following environmentally preferable alternatives be considered:

    a. Restrict mine extraction activities in the 25-year floodplain, perennial streams, or wetlands functionally integrated with the 25-year floodplain. (Manatee County Phosphate Mining Code, Ordinance No. 04-39 (codified as Chapter 2-20, Code of Laws, Manatee County, FL), restricts phosphate mining activities in these areas unless the applicant can demonstrate through competent and substantial evidence that mining activities will not result in adverse effects to water quality, water quantity or natural habitats therein.
    b. Restrict mine extraction activities in wetlands of moderate to optimal values as expressed by the uniform mitigation assessment method (UMAM). Without further documentation of wetland reclamation success, preserving "moderate to optimal" valued wetlands is a prudent measure to achieve NEPA 40 CFR Section 101(b)(3),

*"attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unattended consequences."*

2. Section 1.3, Page 1-24, Lines 22-35: In-fill parcels may be smaller in size (typically 300 or larger acres) but permitting these areas may have unattended adverse consequences which may be significant in the local context and therefore should be evaluated in the AEIS cumulative impact study. Consequences of these "in-fill" parcels include extending the life of mine, delays between mining and reclamation, additional lands temporarily removed from the watershed, etc. These consequences may have cumulative impacts which should be considered in this study. Any of the identified offsite alternatives adjacent to the four proposed actions could potentially become an "in-fill" parcel. Therefore, Manatee County recommends analyzing the four proposed actions with reasonably foreseeable "in-fill" parcels as an alternative. The history of Four Corners Mine "in-fill" parcels is well known and could be used to make appropriate assumptions.

**Chapter 2: Alternatives:**

CEQ regulations implementing NEPA, 40 CFR, Parts 1500-1508, require that all reasonable, feasible, prudent, and practicable alternatives that might accomplish the objectives of a proposed project be identified and evaluated.

1. Section 2.2.3, Onsite Alternatives, Page 2-8: Manatee County staff supports the application of buffers around unique habitats or habitats with protected species in order to provide against direct impacts to these habitats. However, the spatially defined buffer zones used in this analysis are too large to provide reasonable or practical alternatives. See additional comments under Chapter 4.

2. Section 2.2.3, Onsite Alternatives: Satisfactory consideration of mining operations onsite alternatives has not been given. Such onsite alternatives, for example: a) only mining one side of a riverine system at a time, or b) phasing land clearing with reclamation so that muck soils can be directly transferred to reclaimed wetlands, or c) rotating mine blocks to reduce the acres disconnected from a sub-basin as any given time, could minimize environmental impacts or other undesirable consequences. These practices are operationally possible and effective but require some additional planning. However, unless required to consider onsite alternatives in mining operations, the mining industry will continue status quo operations.

3. Section 2.2.4: No exploratory data was presented as to quality/quantity of matrix available to support any of the Offsite Alternatives as viable options.

4. Section 2.2.4.8, Page 2-54, Lines 1-17: FEMA Flood Insurance Maps used are the old version and do not represent the best available information. New maps are not scheduled for adoption until March 2013, but are best available data and should be used.

5. Section 2.2.4.8, Page 2-64, Table 2-15: Regulatory setback requirements for Manatee County are incorrectly referenced. Setbacks for phosphate mining extraction activities, clay settling areas and beneficiation facilities, stockpiles, and related activities and structures are specified in the Manatee County Phosphate Mining Code

6. Section 2.2.4.9, Summary, Page 2-68: Lines 4-7 state the combined two tiers of screening removed over 121,628 acres. However, in Manatee County, each mining operation requires the Agriculture (A) Future Land Use Category. While the maps do not define Manatee County's Future Land Use Map, it appears that some of these Alternative Sites are inside or adjacent to the Urban Fringe – 3 (UF-3) Future Land Use Category, which is also inside the County's sewer service area. This is an area designated for future suburban development. In order for mining to occur in the UF-3, an amendment would be required to the Future Land Use Map with required public hearings before the Planning Commission and Board of County Commissioners. Therefore, Manatee County staff recommends that Figures 2-17 and 2-18 be revised to remove Alternative Polygon Areas FF and CC-2. Please see additional comments in Chapter 3 concerning Offsite Alternatives.

7. Section 2.2.5.1, Page 2-68 Functional Alternatives: Inadequate support was given for elimination of dredge mining alternative. Statements were made on page 2-68, lines 23 through 29 and page 2-71, lines 7-15 without citations that the dredge system is a high energy user and high water user. In Chapter 3: Affected Environment, there is no indication that the dredge mining has caused any more water quantity impacts than dragline mining. The transport and beneficiation of the matrix is entirely a wet process so water is required to handle the sand and clay in both technologies. Dredge mining causes little drawdown of the surficial water table during mining, which is a benefit for preserving offsite wetlands and environmentally sensitive natural resources. Evaporation of the dredge pond is also cited as a reason. Evaporation also occurs in the ditch and berm system of the dragline process, as well as the lakes that remain after mining. There was no comparison done of evaporation differences between the two mining techniques. There was no review of energy use in the draft AEIS. See attached white paper[1] by Roland Huene which addresses these issues in more detail. Wingate Creek Mine has made many of this report's recommended improvements which have resulted in increased efficiencies and production in recent years. Although Section 2.3 proposes to eliminate dredging as an alternative because this method would not be applicable for "all mines", it will still be utilized in site-specific operations and deserves appropriate consideration. Alternative areas identified in the southern portion of the CFPD are dominated by basins that are characterized as "having a high water groundwater table and a significant presence of wetlands", which may be more suitable for dredge mining.

[1] Huene, Roland. *Phosphate Mining Dredge or Dragline.* Nu Gulf Wingate Holdings LLC.

**Chapter 3: Affected Environment:**

1. Section 3.1.4, Page 3-5: The draft AEIS states that "CSA footprints historically represented up to 40 percent of a mine's total acreage at completion of the life of the mine." This is a considerable amount of acreage that has limited post-reclamation uses. All efforts should be made to ensure that the footprints of permitted CSAs are minimized and that no individual county, jurisdiction or watershed is burdened with an overabundance of CSAs. Manatee County requires a clay balance which prohibits importation and disposal of clays that are not mined within the County.

2. Section 3.2, Page 3-11: The draft AEIS states that "existing clay settling areas..." would support mine extensions at existing mines like Wingate Creek. This is not true since historically the CSAs were designed to hold the clays for the existing, permitted mine only. In fact, Mosaic's Wingate East Application No. 2009-03221(IP-ACR), Section 3.2.2.2, states that "Mosaic proposes to construct two CSAs (WE-1 and WE-2) on Wingate East...). An appropriate cumulative impact of these CSAs should be performed. Also, due to the limited post-reclamation use of CSAs, Manatee County requires only equivalent clays produced in Manatee County to be stored in the County. Other counties may have similar requirements. An accurate clay balance should be performed as requested in our scoping letter (Attached).

3. Section 3.3.3, Page 3- 81 through 3-90: The AEIS should include an independent, statistically significant analysis of surface water quality at all waterways connected to active mines within the CFPD. The AEIS evaluation relies on past investigations in the "four corners" area (Lewelling and Wylie, 1993), Horse Creek (BRA, 2006), and the Peace River (PBS&J, 2006). The Peace River study was inconclusive in its evaluation of phosphate mining effects on surface water quality and the Lewelling and BRA evaluations only take into account a single system. NPDES data, while valuable, only provides information on individual mine discharges on a variable basis in times of high water. An evaluation that includes seasonality is needed to assess surface water quality of various waterways within the CFPD. Data is available from other sources, for example DRI 5/251 and Manatee County Ordinance 08-16 require eight (8) surface water quality monitoring stations within Manatee County, five (5) that are sampled quarterly and three (3) that are sampled monthly. Data from other local, state, and federal programs are also available.

4. Section 3.3.6.3, Page 3-125, Line 2: In reference to Figure 3-45, FDEPs Conceptual Integrated Habitat Network and Agricultural Land use Coverage in the CFPD, many of the Alternative Sites referenced in Chapter 2, fall in areas that have the Level 1 FLUCCS – Agriculture designation, meaning they have active agricultural uses. Alternatively, these sites developing as mining operations instead of active agriculture, could significantly negatively contribute to the economy in the county. While agriculture is

sustainable for generations, properties post-mining reclamation may not be able to support the same level of agriculture, especially in the clay settling areas.

5. Section 3.3.7.2, Page 3-130: Manatee County recently updated its population projections with the update to the Sarasota-Manatee Metropolitan Planning Organization's Long Range Transportation Plan (MPO-LRTP). The projections were based upon Certificates of Occupancy and local development trends. While generally comparable, the LRTP had a higher growth projection to 2035 by 5% while still remaining inside the County's Future Development Area Boundary. This boundary is essentially the western edge of the Agricultural/Rural (Ag/R) Future Land Use Category which aligns with the County's eastern boundary of its sewer service area.

   The study illustrates the migration of potential mining activities to the west in areas the Comprehensive Plan calls for future suburban development. Development plans for these areas include residential, services, institutional uses such as schools, commercial and other development activities that are likely incompatible with mining activities.

   Alternative future mining areas in north central Manatee County are also adjacent to existing residential development, including the Foxbrook subdivision, which is an existing residential subdivision that is mostly developed. Other areas of potential mining activities that are in the south central portion of the county may be in proximity to older platted subdivisions that contain hundreds of single-family homes on 1 acre and larger lots. These areas of the county are generally incompatible with mining activities. Therefore, Manatee County staff recommends that Figures 2-36 be revised to remove Alternative Polygon Areas CC-2, FF and X.

6. Section 3.3.7.2, Page 3-131, Line 4: In reference to Figure 3-48, 2020, 2040, and 2060 Regional Urban Growth Projections for South Central Florida by 1000 Friends of Florida, the population distribution assumptions made are totally inconsistent with current policies in Manatee County's Comprehensive Plan and other land use regulations. To get suburban population density with central potable water and sewer service east of the current Future Development Area Boundary, there would have to be massive changes to the Goals, Objectives, and Policy structure to the Comprehensive Plan, to include the Future Land Use Map, Sewer Service Area Maps (based on other engineering studies), and changes to Potable Water and Sewer Service Infrastructure Plant Computer Models, and changes to transportation and traffic computer models, etc. Not insurmountable, but major changes.

7. Manatee County's *How Will We Grow?* project, while still underway at the time of these comments, projects enough vacant land within the current Future Development Area Boundary to handle future population growth beyond 2035.

8. Section 3.3.7.5, Page 3-138, Lines 16-29: Replacing active agriculture, a continuously renewable economy for future generations, with mining and reclamation, would

negatively contribute to the economy in the county in the long-term unless there is a technological solution to dealing with background radioactivity and Radon Gas on reclamation lands in the future. While agriculture is sustainable for generations, properties post-mining reclamation may not be able to support the same level of agriculture, especially in the clay settling areas.

9. Section 3.3.7.7, Page 3-148, Lines 22-35 and Page 3-148, Lines 1-9: There is no exception for mining operations in the Manatee County Noise Ordinance, 08-12, as amended.

10. Section 3.3.7.7, Page 3-152: The effect of radiation in food consumption has not been adequately addressed. Typically reclaimed CSA's are used for cattle production and limited crop production. Please provide reference studies that address potential health concerns of consuming beef and dairy products from animals grazing on CSAs, or vegetable/fruit products grown on reclaimed CSAs.

**Chapter 4: Environmental Consequences:**

This chapter's purpose is described as identifying and evaluating direct, indirect, and cumulative effects expected to occur as a result of implementing each alternative with consideration to federal, state, or local requirements for protecting the environment and the level of public concern about potential impacts. The Manatee County Scoping letter provided a summary of twelve items of potential impacts and problems. Although portions of these items were discussed in the draft AEIS, significant concerns remain. Below we have elaborated on the significant items.

1. Section 4.2.3, Surface Water Resource: The analytical approach used to forecast surface water hydrologic impacts has significant flaws and is inadequate for the stated purpose of the AEIS. The resulting model has no predictive utility over the very long time span over which it's applied.

2. Section 4.2.4.2: Key Assumptions assumes 40% of reclaimed land will be used as improved pasture after reclamation. We can conclude that this assumption is based on the fact that approximately 40% of mined land is used for the disposal of clays in CSAs. Therefore, it should also be assumed that another 40% of reclaimed mine land will be comprised of lakes, streams, wetlands, etc. which are not available for development. Therefore, when mining is approved, less than 20% of the land post-reclamation will be available for development. This needs to be evaluated economically compared to the No Mine option.

   Inputs to the surface hydrology model have deficiencies which fatally compromise the utility of its predictions over the very long time span of the model forecasts. In particular:

- (App. E, Section 2.3.5 Land use specific Runoff Coefficients) The validity of the Janicki (2010) land use specific runoff coefficients over a 50-year time span is questionable. They were not developed for applications of this temporal scope. Additionally, these coefficients are seasonal coefficients and are by their very definition unusually sensitive to regional climate cycles (documented in the AEIS references). Robust, long life cycle land-use specific runoff coefficients must be specifically developed for a successful forecast model.
- (App. E, Section 2.4 Method Validation Result) Interactions between rainfall and the value of the long term hydrologic factor **(J)** pointed out in Section 2.4 were not comprehensively examined. Instead, which simply posited the monotonically decreasing trend in the long-term hydrologic factor **(J)** values versus rainfall present in Table 4 indicates a response to lower annual rainfall totals from effects of basin storage characteristics. However, rainfall and land use factors are both individually already in the model and this behavior may also point to a significant, un-modeled interaction term. This behavior needs to be analytically examined if it continues to appear in the forecast model. It is not adequate to simply dismiss this behavior or describe its mitigation (Section 2.4, Page 16, last paragraph).
- (App. E, Section 3.0 Land Use Projections ) Future land use layers that represent a fundamental watershed characteristic in the surface water model are developed using GIS-based projections of contemporary land use and cover trends. This approach ignores the many factors that may affect future land use distribution in the Central Florida Phosphate District (CFPD) (i.e. urban development, agricultural development, transportation networks, conservation lands) that are widely known to the area's Policy, Planning, Transportation, and Economic entities who have published voluminous appreciations of future growth patterns over time frames approaching, if not congruent, with the time frame used by the AEIS hydrologic model. Aggregating the region's official future land use projections and building the model land use and cover GIS layers informed by these appreciations is the only credible means of forecasting watershed characteristics 50 years in the future.
- (App. E, Section 4.0 Capture Area Predictions) Mine capture area forecasts used in the analysis are simple representations of idealized mine plans and do not reasonably model the mine impact characteristic used by the surface water quality model over the very long time span simulated by the model. The mine capture area needs to be statistically modeled to a level that predicts upper and lower confidence intervals on mine capture area with respect to time. A credible model will also factor in economic and regulatory factors known to affect mine operations.

3. Section 4.3: The draft AEIS has not sufficiently considered the direct, indirect and cumulative effects of landscape changes, such as clay settling areas (CSAs) and created lakes. Section 1502.16 of the *CEQ Regulations for Implementing NEPA* indicates that such a permanent feature warrants a discussion of the effects and their significance.

CSAs, when reclaimed, remain a modified feature in the watershed. CSAs have limited uses (i.e., no residential development can occur on them). Created lakes may have beneficial effects such as fish and wildlife use and detrimental effects such as changes in regional evaporation rates. A regional evaluation of past, present and reasonably foreseeable incremental impacts to the landscape is necessary to properly assess the net effects. The Ecological Resources evaluation (starting on page 4-28) does not take into account past or current changes to the landscape. The AEIS should evaluate the cumulative effects of clay settling areas to surface waters, economics, public health (radiation effects), aesthetics, and wildlife.

4. Section 4.10, Page 4-154: The analysis in Chapter 4 should be rerun using reasonable buffer widths that are based on scientific studies[2]. Consideration should be given for any State or County mandated buffer zones or setbacks from wetlands, floodplains, residential areas, roadways, and perennial streams.

5. Section 4-10: In its current state the IWHRS analysis is insufficient in detail to review direct, indirect or cumulative impacts or their significance to the CFPD. The results of the IWHRS analysis should be incorporated to identify and compare ecologically important habitat for wildlife on each alternative and between alternatives. Protected species should be identified and loss of such ecologically important habitats should be quantified.

6. Section 4.11.1, Page 4-162: The draft AEIS states that the Southwest Florida Water Management District (SWFWMD) has implemented measures in water use permitting which are proactive in addressing dewatering impacts. Please verify that these measures have been incorporated into Chapter 40D-2, Rules of the SWFWMD Water Use Permits.

7. Section 4.11.4, Page 4-165 Noise: Manatee County Noise Ordinance was not included in this section of the study (Manatee County Noise Ordinance, 08-12, as amended).

8. Section 4.11.5, Page 4-165: Manatee County recommends a more in-depth air quality evaluation of proposed beneficiation facilities be performed based on the Clean Air Act to address whether the location of the facilities may cause non-attainment levels in surrounding counties. Although as referenced on Page 3-148, lines 1-8, the region is classified as in attainment, there have been exceedances which may be increased by the proposed actions.

9. Section 4.11.11, Reclamation: Manatee County Scoping letter recommended an evaluation of reclamation techniques and we stress that this request has not been met. There has been no evaluation of xeric habitat reclamation or other upland reclamation for

[2] Wenger, S. 1999. A review of scientific literature of riparian buffer width, extent and vegetation. Institute of Ecology, University of Georgia. Athens, Georgia.

listed species and little evaluation of wetland reclamation. We disagree that the USACE rely on State reclamation requirements. Some of the reclamation techniques are not required by State law or rule at this time. The lack of evidence does not support continuing on the status quo process. If there are certain reclamation techniques that produce superior quality, then those should be included in the Final AEIS Mitigation Chapter. Additional comments are provided under the Mitigation Chapter below.

10. Section 4-12: The Manatee County Phosphate Mining Code, Ordinance 04-39 requires a Cumulative Impact Assessment be performed for proposed mining plans. One issue to be reviewed as part of this assessment is wetland loss and reclamation on five-year intervals. The use of the CLIP aggregate analysis gives an overview of the ecological importance and conservation value of a given site on a conceptual level but does not give specific information on wetlands or wildlife on an individual site basis or the effects of wetland loss on a cumulative temporal scale. An evaluation is needed that assesses the wetlands of each alternative, the loss of such wetlands and a cumulative analysis is needed for such loss until 2060. Use of the individual data layers, as recommended by the **Critical Lands and Waters Identification Project (CLIP): Version 2.0 Technical Report – January 2012** for both wetland and wildlife is needed to evaluate the site for present conditions and temporal scale changes.

    a. On Map A2-3 the CLIP aggregate Priority 1 and 2 areas do not extend to some areas of the 25-year floodplain. This is an example of the flaw in using this type of data model within the AEIS. The floodplain data layer is a subset of the surface water layer which is a subset of the aggregate data layer therefore valuable information is not shown. Again this is an example of why the use of the individual layers (such as Wetlands) of data would provide a more accurate picture of ecological resources.
    b. It is recommended that USACE provide comparisons between the alternatives using individual CLIP data layers.

11. Section 4.12.2: A purely wetland cumulative impact analysis to review functional loss and reclamation values is necessary. There has only been one study to evaluate the functional success of wetland reclamation (FDEP 2009, *Evaluation of Reclaimed and Released Mining Parcels,* presented at Peace River Basin Resource Management September 30, 2009 meeting). In this limited study, it was reported that the average UMAM score for reclaimed wetlands was 0.56 (average score of 0.66 if considering only wetlands released after 2005). This study did not address the likelihood of wetland mitigation reaching success or the temporal loss of wetlands.

    Furthermore, the FDEP reclaimed mining parcels study reviewed reclaimed wetlands at FLUCCS Level II. This is an inadequate analysis of wetland reclamation due to the reduced complexity of habitats at Level II. A recent study presented at the 2012

INTECOL Conference by Jason Lauritsen and Tim Burham[3] highlights the importance of identifying and mitigating specific and important wetland functions of wet prairies. It is critical to reclaim and mitigate to a Level III FLUCCS in order to avoid any unattended consequences of losses of specific wetland functions.

12. Section 4.12.2, Pages 4-187, Line 4: The Future Development Area Boundary was established with the adoption of the Comprehensive Plan in 1989, not too recent.

**Chapter 5: Mitigation:**

1. Section 5.3.2, Utilization of Soils: Manatee County staff requests that an accurate review of the utilization of native wetland topsoils be investigated. A comparison of mucked mitigation sites versus non-mucked sites should compare plant species richness and coverage, and wildlife use. Alderman Creek Bay Swamp Demonstration Project (referenced on page 5-7) is a good example of the use of wetland mucks; however, the same level of care and funding is not given to every reclamation unit. Availability of soils and storage and spreading logistics should be included in the review.

2. Section 5.3.4, Development of Appropriate Hydrology: Although there should be a mandate, the use of sophisticated integrated surface water/groundwater modeling is used when required by permit stipulation (e.g. Altman Parcel #4). Manatee County currently is the only agency requiring monitoring of post-reclamation hydrologic conditions as part of Phosphate Mining Code, Ordinance 04-39, Reclamation Manual. It has been demonstrated that successful reclamation begins with first successfully restoring the appropriate hydrology.

3. Section 5.3.7, Assessment of Mitigation Success: This item is of utmost concern to Manatee County. Manatee County staff agrees with the draft AIES statement (Page 5-8, lines 21-23) that an evaluation of wetland mitigation should use a functional analyses such as described in Section 5.3.6 and was disappointed to find no such evaluation in the draft AEIS. Although the federal Section 404 program does not have a minimum establishment period for regulatory release of mitigation wetlands (Page 5-5, lines 29-32), the industry's annual mitigation reports should be reviewed and a summary of current amount of wetland mitigation meeting success criteria (released and non-released) should be provided. Also, a functional evaluation should be performed of those wetlands and compared to impacted wetlands.

4. Section 5.5.2, Offsite Mitigation, Page 5-11: Manatee County staff found it curious that this section contained no discussion of reclaiming non-mandatory lands in the Peace

[3] Lauritsen, J and Burham, T. 2012. *Targeted Ecological Restoration Through Shallow Wetland Mitigation Banking with Wood Stork Benefits*, INTECOL Conference. Orlando Florida.

River basin as offsite mitigation, specifically targeting historic headwater wetlands and streams.

5. Section 5.9, Page 5-24, Lines12-22: Has any research been done on the reclamation of xeric scrub habitat other than the fact that it can support gopher tortoises? There are many rare and endemic plants and animals found in scrub that have very specific needs which may or may not survive on reclaimed scrub. Pressures from habitat fragmentation coupled with the temporal loss of functions and values on reclaimed scrub may have cumulative impacts on these species.

**Chapter 6: Compliance with Environmental Requirements:**

1. This Chapter should be expanded to include state and local regulation that may be applicable to phosphate mining in the CFPD. A copy of Ordinance 04-39, Manatee County Phosphate Mining Code is attached for reference.

**Chapter 7: References:**

A comment was previously provided via email to John Fellows, (Project Manager) on June 22, 2012 regarding the lack of availability of many of the references cited. Therefore, the comments provided in this letter are based on the draft AEIS and the references that were readily available at the time.

**Other:**

1. Add "buffers" to the Index.

**Appendix A: Site Aerial Photographs:**

1. Exhibit on page A3-3. Please verify that the perennial stream segments match those in the Soil Survey of Manatee County Florida. If they do not, please state why.

**Final Comments:**

Due to the substantial deficiencies, along with not providing references in a timely manner, (according to *Section 1502.21 CEQ Regulations)*, in the draft AEIS, Manatee County requests an interim draft AEIS or an addendum to the draft AEIS be produced prior to the final AEIS according to *Section 1502.9 CEQ Regulations.* We also recommend a group consultation with

USACE, affected Counties and NEP to review onsite and offsite alternatives and recommendations for mitigation prior to the release of the Final AEIS.

Thank you again for the opportunity to participate in the development of this area-wide EIS. If you have any questions or need any additional information, please feel free to contact Charlie Hunsicker, Director, Natural Resources Department at 941-745-3727 or email: Charlie.Hunsicker@mymanatee.org.

Sincerely,

Ed Hunzeker
County Administrator

Cc: Manatee County Board of County Commissioners
Donald Kinard, USACE, Chief, Regulatory Division
Duncan Powell, U.S. Environmental Protection Agency
William Clague, CAO
Manny Pumariega, TBRPC Executive Director
Ken Heatherington, SWFRPC Executive Director
Lisa Beever, Charlotte Harbor NEP Director
Mark Alderson, SBEP Director
Holly Greening, TBEP Director
John Osborne, Planning and Zoning Official, BDSD
Charlie Hunsicker, Director, NRD
Rob Brown, Division Manager, NRD
Alissa Powers, NRD
Mark R. Simpson, Water Division Manager, Utilities

Submission number 370

| | |
|---|---|
| **Submission Number:** | 000000370 |
| **Received:** | 07/31/2012 02:55:36 PM |
| **Organization:** | Maynard Hiss |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Substantive |
| **Category:** | Unspecified |
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| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

| | |
|---|---|
| **Primary Commenter:** | ◉ |
| **Commenter ID:** | 52620 |
| **Hide Submitter:** | ☐ |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Maynard |
| **Last Name:** | Hiss |
| **Name Suffix:** | |
| **Title:** | |
| **Organization:** | |
| **Division:** | Not Applicable |
| **Address Line 1:** | 1243 Panama Dr |
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| **Email:** | maynardlh@gmail.com |
| **Number of Additional Commenters:** | 0 |

Appendix D - Groundwater Modeling

My concerns are specifically with groundwater recharge and infiltration and groundwater pollution. And also he human health impact to home owners that rely on wells, and septic tanks, and impact public health providers.

It is my understanding from being on Rivers in Florida that many of the springs on the rivers and lakes have lost their flows into the streams and lakes and instead provide conduits for surface water to enter the groundwater. In some times of the year the amount of surface water entering the ground is high. In some cases large lakes and river almost completely drain because of lower aquifer levels. So instead of clear freshwater flowing into the stream or lake we have highly polluted surface water entering the groundwater. In many cases the aquifers are refilled with highly polluted water that is washed off in the first rains after a drought. In some cases surface water incresases during dry times compared to the past because of agricultural irrigaiton - much of the water having higher concentrations of agricultural chemicals and animal wastes, and flows directly into the aquifer that is drawndown. Many of the rivers and lakes not only don't meet Clean Water Act Standards for potable water they don't meet them for recreational purposes. Because of changes in water quality in the aquifer there will be a significant health risk and health costs which are not dealt with in your report. There are also significant changes to the ecology that will occur beause of changes in the groundwater.

The problem is compounded in the Phosphate mine region for the specific reasons:

1) There is an extremely high demand for water and over allocation of existing supplies in the region to begin with. Such high demands have already stressed the aquifers, and surface supplies, and lowered them so much that surface water and wetlands are sucked dry. There is little wiggle room for dealing with droughts as urban demand increases during dry times. There is no assurance that the phosphate mining companies will shut down or cease impacting the water supplies if they are aggrevating the problem. There is not a sufficient mitigation plan in times of emergency like there is for cities. For example, if significant problems occur after the permit is issued will they be resolved or will the phosphate mining companies be grandfathered in as a persistent impact with little or no remedial action. And there is insufficient monitoring program to even identify the problem, as the permit analysis did not include the natural and culturallly created extreme fluctuations in the natural groundwater systems. If it was not initually looked at it certainly will not be considered in the monitoring program. So if a

problem exists it will unlikely be identified.

2) Because of the high demands for water and extensive dependence on groundwater the groundwater table has been lowered to the point where water now goes directly into the aquifer in places where it normally flowed out.

3) As surface water dries out concentrations of pollutions increase in concentration. In the past some of the concentrations were diluted by groundwater flows. But the groundwater flows in the form of springs have lower flows or dry up. The groundwater no longer dillutes the pollution in surface water it increases the concentrations of pollutions and nutrients. And the air is now filled with sediments and pollutants that also enter the surface water sources (e.g. dust and rainwater with altered chemicals from the particulates).

4) As springs dry up, surface water is beginning to enter the groundwater. The surface water is especially polluted in droughts as concentrations of pollutants are less diluted, and more polluted from wind born materials that increase in dry times. Also during dry times irrigated water increases. Water from irrigation during drought is often more highly polluted than normal surface water flows since it is on fertilized and pesticided lands, more dust in the air, and is associated with livestock or pets and wild animals (which often are concentrated in small pools of water). The irrigated water is not dilluted by other surface water types, instead it is concentrated with pollutants and nutrients.

5) Normal highly filtered water going into the aquifer in the recharge areas in phosphate areas is no longer able to enter the aquifer because of the slime ponds are designed to prevent the flow of water into the aquifer. In some cases the slime ponds cover a high percent of the total potential recharge area. Because the decrease in recharge filtered water there is a higher percent of untreated surface water flows in the aquifer.

6) In Sarasota County the area underneath the landfill was not getting oxygen. There were chemical reactions in the soil because of the lack of oxygen that creating a pollutant. The pollution plume from the chemical reaction under the landfill was moving toward the water supply as it was in the cone of influence of the groundwater supply wells. In areas where there is extensive slime ponds there in the potential for leaks into the aquifer but also chemical reactions that can create water pollutants that can pollute the water supply. There was not analysis of the potential threat to the groundwater from these chemical reactions underneath the slime ponds which will cover

extensive areas of the mining area.

7)There are lots of septic tanks and other existing sources of pollutions that will move faster into the aquifer as the groundwater table is lowered and there is less resistance to underground flows. This includes agricultural areas, superfund sites, etc where pollution can move faster into the aquifer. Have you mapped these areas of point and non-point pollution sources and looked at the potential for the increased movement into the aquifer either in recharge and directly as surface water as the aquifer is drawn down. In the phosphate region this includes not only the natural pollutants but mining related pollutants, radon and other radioactive elements, as well as pollutant from changing soil chemistry under the slime ponds and slime pond spills that enter the

groundwater .

8) The groundwater aquifiers have different types of pressures controlling the flows of water underground. Some of the water quality in the different aquifers is different than others. There is also pumping into these different aquifers, through deep well injections. These groundwater injections also affect the flows and mixing of the natural potable aquifer with the non- potable water aquifer. When there is extreme drawdowns of the aquifer the mixing can be significant. But not much is know about how the mixing occurs, and the cummulative impacts over time. Is there modeling to see how the drawdowns will affect the flows of water in

the aquifer and the potential adverse impacts on water quality in the aquifer.

9) As the natural filtered water in natural recharge areas is being replaced, more and more by highly polluted surface water, and non-potable deeper groundwater sources, the ground water is being highly contaminated and less suitable. During extreme draw downs the concentrations can be much higher as there is less water in the aquifer which concentrates the pollutants. And surface and underground sources increasely become the sources of

the water to the aquifer.

10) Much of the phosphate lands look like moonscapes and there are also gymsum piles that are often stripped of vegetation for long periods of time. Because of this there is more airborne particles. Many of them have high amounts of nutrients and pollutants. In sarasota county for example, this cause a problem when maintaining the water quality in swimming pools as nutrients cause a biological response that effects the chemistry of the pool. It also makes it hard for owners to control pool chemistry as they don't know what is in the pool at any given time. The natural water bodies and related surface water flows are also obviously affected much more than pools 50 miles from the sources. Much of the airborne particles are highly souable and persist in the water, especially ground water that does not have treatment by natural biotic

processes.

11) At the peak of concentrations of pollution in the groundwater during drought these areas may also be more suceptiable after droughts as groundwater seepage from other aquifers and salt water intrusion and highly concentrated run off goes into the aquifers and fills it up at a faster rate than recharge areas which are now covered by gymsum stakes and slime ponds..

12) There may be a negative impact loop where pollutants become more and more concentrated into the aquifers as they settle down. However, the pollutants may be stirred up during certain times of year when there is increased flows of water in the aquifer. In some cases there may be sediment or pollutant traps where certain pollutants concentrate underground. Much like sediments concentrate behind a dam and constantly buid up. So

there may be highly negative effects on some areas and less impacts in other areas. The study does not address

where the greatest vulnerabilites to the pollution are. And what can be done if an impact does occur.
13) In natural systems there may be considerable breakdown of the pollutants in the water through biological processes. However, underground there is less biological breakdown of the pollutants so they persist for longer periods of time. So more and more polluted water is concentrating in areas where it cannot be treated in part because the natural recharge areas and surface water filtering biota are by passed by direct flows into the aquifer before there is time to treat the water.

14) As these pollutants are released into natural streams and lakes under high flow times or in some places during low times they can have considerable impacts on the use of the surface water supplies. For example, many of the natural springs now have much more nutrients in them than in the past. So the water changes the ecological charater of the plant and animal communities. Some of the spring runs have significant increases in nutrients that greatly increase aquatic weeds and also algae on the natural aquatic plants. So the groundwater that becomes surface water can pollute surface water sources.

15) The natural groundwater may also not be drinkable without treatment. In the cases of natural rivers it is easy to see the pollution. For a natural spring water company or municipal provider of potable water there is extensive filtering and testing of the water. However, for people who have wells and septic tanks there may be little or no monitoring. If there is an impact to the water quality many will not know as impacts my be specific to an individual type or cummulative, or concentrated in certain areas or depend on confounding facts such as whether the people drink the water, how much they drink the water, and what time of year they drink the

water.

16) In phosphate areas many of the people are poor and cannot afford the necessary monitoring of the water and on site treatment facilities that would mitigate the water quality problems. Many people rent from landlords that will not provide the necessary on site treatment facilities.

17) The proposed study does not include an analysis or monitoring program to assure that existing municiple and onsite users underground water supplies systems will be protected. Nor are there contingency plans to mitigate problems should they arrise. There is not even a program to identify such problems should they arrise.

18) Many people in the phosphate mining area are poor and depend on medicaid and medicare. What is the projected health risk from increased pollution and increased deterioration of existing potable water supplies and also air borne pollution. How many people will be sick, how many will die and how many will be dependent on the state and federal government for resolving increaed health risks are not answered.

19) Because of changes in the water quality and quantity there will also be differences in the erosion rates of the underground geological formations. These health risks associated with sink hole activity have not been properly addressed in the report.

20) Will the phosphate industry reimburse the public for these health risks. For example, if the Human Take and Health Deterioration Permit from phosphate mining is projected to increase deaths and sicknesses by x amount, will they have to mitigate these impacts like they do endangered and threatened species or are the costs tranfered

to the public agencies or to the individuals who are the victims.

My concerns are not addressed in the report so there is no way to address the subsection page number or line.

Thank you in advance for addressing my concerns, Maynard

Submission number 371

# PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY



July 30, 2012

Mr. John Fellows
US Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida, 33610-8301

RE: Peace River Manasota Regional Water Supply Authority Comments on May 2012 Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

The Peace River Manasota Regional Water Supply Authority (Authority) is an existing legal permittee with a Water Use Permit (SWFWMD WUP No. 20010420.008) that establishes a withdrawal schedule from the Peace River at our Peace River Water Treatment Facility in DeSoto County, Florida. The permitted withdrawal schedule is based on combined daily flows of the Peace River (USGS gage 02296750), Horse Creek (USGS gage 02297310) and Joshua Creek (USGS Gage 02297100). The USEPA also completed an EIS (904/9-03-001, January 2003) on the Peace River Facility and withdrawal from the Peace River for public water supply.

The Authority has invested over $300,000,000 in new infrastructure over about the past decade, including construction of a 6 billion gallon off-stream raw-water reservoir, 21-well aquifer storage/recovery wellfield, water treatment plant expansion, and transmission pipelines. This investment of public dollars is to insure reliable, high-quality, affordable drinking water supply to serve the four county region of the Authority as required by state statute. Authority drinking water supply facilities presently include:

- 48 Million gallon per day (MGD) conventional surface water treatment plant
- 120 MGD intake on the Peace River
- 6.52 BG off-stream, raw water storage
- 6.3 BO (21-well) treated water Aquifer Storage and Recovery System
- About 50 miles of drinking water transmission pipelines in service

These facilities provide drinking water to Authority Customers including Charlotte, DeSoto and Sarasota Counties, and the City of North Port for distribution to residents in their retail service areas. The Authority's current contractual delivery obligation is 32.7 MGD (average day). During the 12-month period ending June 30, 2012 the Peace River Facility supplied over 75% of the drinking water used by the aforementioned four Customers.

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Quantity, timing and quality flow in the Peace River watershed, including Horse Creek and Joshua Creek are critical to the operation of the Peace River Facilities. Impacts to any of these three elements (flow, timing, quality) could compromise the ability of the Authority to meet public drinking water needs and contractual obligations, and adversely impact the financial investment of public funds in infrastructure constructed to provide public water supply.

A brief summary of our concerns regarding impacts to quantity, timing and quality of flow, and how those issues are addressed in the May 2012 Draft AEIS are summarized below. More comprehensive review comments on the Draft AEIS are provided in the attached July 11, 2012 Technical Note.

## I. Quantity & Timing of River Flow

A major issue relative to the Authority's regional drinking water supply operations on the Peace River relates directly to how potential reductions in stream flows were assessed in AEIS. Flow-related impacts affecting Peace River Facility withdrawals and the Authority's drinking water system reliability will be masked by use of techniques that consider the annual average changes in flow impacts from mining. Annual averaging tends to mask impacts on water supply availability during dry weather by averaging dry-season flows with the high volume wet-season flows. The "average" condition typically provides adequate flow to meet water supply needs, however, conditions are rarely average, and in the past 12 years have tended to be very dry for extended periods.

Analysis of mine related impacts on river flow should include evaluation of all potential mine-related impacts over a full range of actual historical river flows so that impacts to permitted water supply facilities such as ours can be discerned. Reduced supply availability and water system reliability could necessitate any or all of the following costly actions:

- Installation for more pumping capacity on the river,
- Construction of more water storage capacity,
- Implementation of alternative treatment methods (such as membranes) and/or,
- Development of new sources.

## 2. Surface Water Quality

The Peace River Water Treatment Plant is a conventional surface water treatment facility using aluminum sulfate as a coagulant primarily for color removal. The treatment facility does not (and cannot) reduce dissolved solids (such as sulfate, chloride, sodium, etc.), which are regulated drinking water parameters in Florida. Although average water quality data from mine discharges (presented in the Draft AEIS) are somewhat informative, they don't tell much about potential worse case impacts, which are caused by

specific events and not averages. The evaluation should consider what the maximum observed parameter/constituent values were, the number of observations available, and the number that were above water quality standards to aid in assessment of impacts to drinking water supplies.

In addition, a related and potentially just as important water quality issue is that of impacts from mining related facilities such as processing plants, and phosphogypsum stacks. The protracted and ongoing USAC phosphogypsum stack closure which discharges high TDS water into Whidden Creek which outfalls to the Peace River clearly shows that such facilities can affect water quality in the river, and by extension could adversely affect public drinking water supplies relying on surface water in the Peace River Basin. We are concerned that impacts from such facilities — which are certainly associated with mining and will be constructed in the study area to support mining operations, are not adequately discussed or addressed in the Draft AEIS.

The Authority appreciates the opportunity to comment on the May 2012 Draft AEIS. Based on the large volume of information the Authority provided the AEIS project team early in the scoping process, the discussion above, and the attached July 11, 2012 comments, we hope a more thorough analysis of the potential impacts to our drinking water source will be undertaken as part of the AEIS process. Should you have any questions about our facilities and operations please let me know.

Sincerely,

Mike Coates, P.G.
Deputy Director

Attachment
cc: Doug Manson

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Z

# Technical note

| | | | |
|---|---|---|---|
| **Project:** | ACOE Southwest Florida Phosphate Area Wide EIS | To | Mike Coates |
| **Subject:** | Review of Draft AEIS Document | **From:** | Ralph Montgomery |
| **Date:** | 11 July 2012 | cc: | Sam Stone |

The following briefly summarizes observations made reviewing the currently released draft Area Wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Realistically, the document should probably be re-titled something relative to "new" proposed and potential phosphate mining in the Central Florida Phosphate District since it does not address historic cumulative impacts that are still ongoing today. It also dismisses and/or ignores any impacts resulting from phosphate mining that wouldn't require 404 U.S. Army Corps of Engineers (ACOE) dredge and fill permitting or wetland permitting (although it seems unlikely that any large scale mining in uplands only would be feasible).

For example, considerations of potential impacts resulting from chemical processing of the ore, and/or issues related to phosphogypsum stacks and their ultimate closures and the potential for the discharge of poor water quality impacting downstream water quality are not discussed in the AEIS. Phosphogypsum stacks are located in the study area and their number and extent are directly a result of past and future phosphate mining. The proposed mines will increase the need for such facilities and add to the recently observed impacts/costs of stack closures. They have not only environmental impacts on water quality, but also potential economic impacts for existing /future public utilities using surface water supplies downstream of mining in the CFPD and such impacts need to be included in the AEIS.

The other major issue relative to the interests of the Peace River Manasota Regional Water Supply Authority (Authority) is with regard to how potential reductions in stream flows were assessed. The applied method did make some attempt to differentiate between seasonal flows. As applied, however, the method used to estimate changes in flows due to mining didn't take into account the reality of lower flows, and their implications for water supply reliability and the cost to store more water or develop additional supplies. The method used in the AEIS both masks the real impacts of "non-contributing" portions of watershed created during mining on seasonally lower flows by averaging in the much smaller (or no) impacts during seasonally higher flows. The presented impacts on surface flows are based on annual averages, which mask the much larger expected changes during seasonally lower flows. The applied method also assumed increasing flows over time (with rainfall being held constant) based on landuse changes that may not occur or be extended much further into the future.

Prime considerations for downstream public water supplies (Authority and City of North Port) are that the AEIS needs to better address how the presented alternatives both individually and

# Technical note

cumulatively will influence the seasonal timing of lower flows currently relied on for water supply. What are the economic impacts to pubic water supplies when they are required to increase storage and or develop additional alternative water supplies to ensure system reliability to make up for these projected changes? The AEIS also needs to address shorter term water quality issues related to public supplies caused by phosphogypsum stack closures (which take years and result in major changes in water quality under drier season flows) - what are the potential economic impacts of new treatment processes to address these changes in water quality, additional storage capacity to reduce water quality impacts or the development of new water supplies to avoid poor water quality impacts?

The AEIS also needs to address how much of the predicted dry-season changes in flows resulting from the mining alternatives (individually and cumulatively) will impact allowable water use under the District's established Minimum Flows and Level (MFLs). Specifically, the AEIS needs to address how the alternative actions will decrease the number of days public water suppliers will have the ability to withdraw from the both the lower Peace River (Authority) and Big Slough (City of North Port), and the associated economic impacts that will occur from this reduced water supply.

The District has expended a great deal of time, effort and money developing the Peace River and Myakka River Integrated Surface Water and Groundwater Models that are being used by them to model responses to changes in landuse and permitted amounts of water use. The AEIS doesn't adequately explain why an alternative approach was selected to also model predicted impacts of the proposed mining alternatives.

It seems logical that more reasonable buffers should have been evaluated in order to reduce impacts, rather than analyzing buffers which obviously would have negated most (if not all) mining over most of the proposed sites. Set back distances of 250, 500 and 1500 feet would have been much more realistic buffer sizes to evaluate given both the literature and obvious economic impacts to mining of the actual selected buffer alternatives? Recommend that given the amount and distribution of wetlands/streams/high value habitats on the proposed sites, that this entire section of analyses be redone using more realistic buffer widths.

## Executive Summary

1. The EIS (except for one alternative) doesn't address any future mining after the current pending permit applications. The "Area Wide" EIS therefore is limited in scope to evaluating only the impacts of existing pending permits, and not future potential mining activities. While the AEIS identifies the 4 (alternatives 2-5) current permit applications, 3 more large mines in the potential future (alternatives 6-8), and then 18 more possible options (alternatives 9-25), only four are actually evaluated relative to impacts and economic benefits.

Does the ACOE plan to continually update the document in light of potentially future permit applications?

# Technical note

2. The draft AEIS seems to be lacking in any evaluation of historic cumulative impacts of past mining activities and how new activities would "add" to existing impacts resulting from historic mining.

3. The draft AEIS defines the "No-Action Alternative" as continued existing permitted mining, plus any new mining that might occur only on uplands — that is mining in uplands only, is the standard against which the alternatives are assessed. While the No-Action alternative as defined would not require permits, it seems disingenuous to assume that mining uplands only, near existing wetlands, streams, rivers, etc., wouldn't have impacts on a number of the identified criteria.

- Natural/Ecological Resources
- Water Resources, including Groundwater and Surface Water
- Water Quality
- Economics

A pretty strong case could be made using existing literature that mining uplands surrounding wetlands, streams, and rivers would have impacts on water resources. While the ACOE may not be the lead permitting agency, I would assume that they would be a commenting agency on these same issues. Hard to imagine that mining just uplands wouldn't influence these same criteria, although ACOE 404 permits might not be required.

*"Surficial Aquifer System (SAS) Effects: Phosphate mine operations can impact the SAS in a number of ways. The most direct impact is associated with the nature of phosphate mining as practiced in the Central Florida Phosphate District (CFPD), which involves extensive earthwork within the SAS itself Groundwater dewatering, as needed, is accomplished through pumping of the SAS either from a network of shallow wells or through excavation of pits and pumping of water out of the pits. By its very nature, dewatering lowers the localized water table and if environmentally sensitive habitats are located within the zone of influence of the dewatering operations, the potential exists for hydrologic impacts to occur because of this drying out influence. Piezometer monitoring records along a number of ditch and berm systems operated by the Applicants at their existing mining operations were reviewed, and these documented that at some locations, dewatering appears to have reduced water table elevations in the monitoring wells by amounts in excess of 20 feet".*

*"Phosphate mining has the potential to affect the water quality of surface waters draining off of or downstream from, mined or reclaimed lands. It also has the potential to affect groundwater quality, with the greatest potential effects on the shallow aquifer underlying such lands"*

The above two statements seem to directly conflict with the underlying assumption of allowing mining of "upland areas only" without further ACOE review since such actions can be expected to negatively impact adjacent wetlands and stream flows.

# Technical note

4. As the closest mine to the Peace River Facility, the 18,000+ acre Desoto mine site includes nearly 12 miles of stream impacts that would seem to have the greatest potential for impacts (less potential distance for dilution/recovery) to the Peace River Facility.

5. What percent of currently "ditched" streams are in poor condition? A case could be made to mine and restore streams that are in a degraded state - but a good case could also be made to preserve higher quality streams. The AEIS needs to provide estimates of how much stream distance or area is low quality and how much is higher quality.

6. The 4 mines evaluated under alternatives 2-5 would impact more than 50 miles of existing streams, which are simply listed as a combination of natural and ditched streams — the AEIS does not contain much information about these streams — what kinds of streams, what is the existing quality, types of habitats — how much of the ditched streams could be listed as having poor habitat? Why mine high quality natural streams? It is hard to evaluate these impacts without knowing this type of information.

7. The new mines will need groundwater permits — the AEIS should summarize the estimated amounts of water needed by these new mines in the ES (although this information is contained later in the document). One would assume that the new mines aren't going to stop mining during extended droughts (similar to the existing mines) that have occurred during the last decade. This means that under such dry conditions maximum daily/monthly amounts of ground water might be needed under District permits — how much would these maximum water quantities be relative to the annual daily averages quantities of water provided in the AEIS?

8. The EIS has found that during mining, drawdowns of ground water levels at the ROMP wells are small. This conclusion most likely is highly influenced by the fact that almost all the romp wells are not in close proximity to mining activities and therefore might be expected to show little to no water level impacts.

9. The AEIS only provides modeled draw down impacts of the FAS for two of the four proposed mines. Moving water demands and the resulting impacts from currently mined areas to new mines doesn't take into account the existing diminishing impacts to the FAS with the projected end of mining at the current facilities. Thus, it only seems logical that the transfer and projected water use under these two additional mines that were not included in the AEIS analyses should be evaluated as new impacts. Especially since transfer of permitted amounts weren't envisioned in the District's long-term plans for the existing mines (see comments under Chapter IV).

10. How much surface water flow will be removed by mining and for how long from the Myakka and Peace Rivers under dry-season conditions (without averaging in wet-season discharges)? This is a major issue for the Authority and the City of North Port's water supply reliability. The methodology applied to evaluate impacts of mining on stream flows does not specifically address seasonal impacts (although it says they do, because they use adjusted seasonal rainfall coefficients). Impacts are only provided as annual averages. The greatest impacts to the Peace River Facility withdrawals and system reliability will not be based on an annual average (unless storage is further

increased), but will primarily occur during drier periods. The method used in the AEIS masks dry-season impacts by averaging dry-season impacts with wet-season impacts to provide annual averages.

11. The greatest system reliability impact occurs in the dry-season, but the wet-season was averaged which masks the larger dry-season downstream impacts to the Authority's water supply. The AEIS should determine the total impacts during the dry-season over time of the combined influences to the authority's water supply and the water supply for the City of North Port. The economic analysis does not include any estimates of the cost to water suppliers to construct additional storage to take higher flows during wetter periods to account for dry-season loses by mining. The economic analysis also does not take into account the possible cost of developing another water supply source due to impacts from mining during dry periods.

12. Water Quality. Agreed, discharges from actively mined areas under wet-season conditions do not "normally" pose water quality issues to downstream water resources. However, daily discharges in wet-season and dry-season from processing plants, spills, and phosphogypsum stack closures do pose significant water quality issues not included in the draft AEIS. Potentially the greatest impacts on water supplies may be associated with secondary impacts of expanded mining. Secondary impacts such as processing, beneficiation, and ultimately phosphogypsum stack closure impacts are of concern relative to water supply. Will ore processing still be done at existing facilities within the CFPD? The AEIS ignores these issues relating to ore processing within the study area. Based on the recent history of water quality issues within the study area related to the closures of phosphogypsum stacks, it seems only logical that the environmental and economic issues related to such activities should be included in the AEIS.

13. Average water quality data from mine discharges are informative, but they don't tell much about potential worse case impacts, which are caused by specific events and not averages. The AEIS needs to show what the maximum observed values were, the number of observations available, and the number above water quality standards.

14. Why were such large buffers selected when it was intuitively obvious that the results were going to show them to be economically unjustifiable? There are many instances in Florida where buffers have been used effectively to provide environmental benefit around wetlands and streams. Existing literature and water management studies have evaluated buffers a fraction in size to those evaluated in the AEIS. Scoping suggestions made by "some" for the possible use of unrealistic buffer sizes is no justification for actually applying them in the analyses without also using some more realistic sizes. It wouldn't be that hard using GIS to add additional analyses for much more realistic buffer sizes.

*15. "Imposing conceptual buffers on these areas (streams and priority areas) resulted in a lesser level of environmental protection and reductions on the minable reserves."*

Obviously buffers decrease mineable land, but the AEIS needs to do a much better job of explaining how buffers can reduce environmental protection. The AEIS implies that mining would have a benefit by ultimately providing greater protected habitat over the no-action alternative. How can

mining uplands uplands only, provide less environmental protection than allowing mining in uplands, wetlands and streams? The AEIS needs to explain this concept. Wetlands lost from urbanization would (if permitted) require far more mitigation than mining under exiting required replacement of functionality. Agriculture typically doesn't change topography and/or soil structure. The AEIS just assumes that none of these to be mined wetlands or streams would eventually be transferred to public ownership or conservation easements unless they are mined first. This assumption seems unrealistic given decades of land acquisition by both state and local governments and the direct transfer of agriculture land to urban development during normal economic times in the study area.

16. **Cumulative Impacts.** *"One of the key issues which drove the decision to conduct this AEIS was whether the cumulative effects of having multiple phosphate mines operating in the same geographies during overlapping time periods would be substantive enough in terms of spatial and temporal impacts to cause harm to the downstream portions of the Peace and Myakka River watersheds. A major concern was whether such effects could ultimately impact the biological and water quality conditions in the estuarine portions of the rivers leading into Charlotte Harbor estuary, which is the northern segment of the overall estuary included under the Charlotte Harbor National Estuary Program"*

- The AEIS needs to address the cumulative impacts on public downstream water supplies, especially with regard to seasonal availability of supplies under lower seasonal flows, low flow water quality issues during phosphogypsum stack closures, and economic burdens of increasing wet season storage, additional treatment to treat declining water quality and the development of additional new water supplies to compensate for low flow mining impacts.

- *"the cumulative impact of the four proposed new mine projects would be direct impacts on approximately 10,000 acres of Waters of the United States, and an additional 260 acres of other wetlands protected under the rules applicable in Florida. In terms of linear feet of projected cumulative loss of stream habitats, the total estimate for the four projects combined is 260,000 feet". "Individual permit review processes which are running in parallel with the time period of the AEIS. When they are finalized, it will be clear that the final targeted acreages and linear distances of impact will be exceeded by the reclamation and restoration acreages, and the applicable linear measures of stream habitat. Elements of those mitigation plans will address the translation of lost acreages to ecologically significant functions lost during the applicable mining durations."*

  Based on past performance under current State of Florida rules, the functionality of reclaimed and restoration acreages have not always met that of the originally mined wetlands and streams. Why doesn't the ACOE require as part of the AEIS their own standards to meet federal (EPA) functional criteria for mined wetlands and streams in the study area?

- The presented estimates of FSA withdrawals might be better expressed as dry-season maximum daily/monthly values (which would be in the permit) rather than annual averages since most of the FAS water withdrawals by the mines could be expected to occur during such drier periods.

# Technical note

- Just moving FAS impacts from one area to another doesn't reduce these impacts, if these new mines didn't extend the currently permitted water quantities for these new areas then the current impacts to the FAS would simply diminish over time (as envisioned in the original District permits). It is hard to justify these extended water quantities as not being new impacts since they are being extended beyond what was originally envisioned under the original permits.

- The Water Management District's planned improvements to FAS levels assume increases due to landuse changes from agriculture to urban. Urban land use in this area may very well require ground water as a source of supply. Currently most reclaimed mined land reverts to agriculture land use. The AEIS needs to evaluate this possibility and the resulting impacts. The AEIS does not state what the existing permitted District groundwater withdrawal values for mining currently are or what they are projected to be over the future. (It does provide estimates for annual average usage amounts for the mines over time in Chapter IV).

- *"The largest influence on annual average flow from the Horse Creek sub-watershed during average rainfall conditions was predicted to occur in 2030, when Horse Creek may have an average annual flow of approximately at 200 cfs without the proposed mines and approximately 173 cfs with the proposed mines. This corresponds to a decrease inflow of approximately 27 cfs, or 16 percent. Cumulative effects on predicted annual average flow from the Peace River at Arcadia subwatershed remained minimal, and this was attributable to the very large cumulative watershed area contributing flow to this USGS gauge."*

    - Again, there is an issue with how the AEIS projects future rainfall over the period out to 2060. Rainfall in the central phosphate region has not historically had and even distribution over time, and should not be expected to do so (as used in the AEIS). It could easily be argued that the best potential predictor of rainfall into the future (at least the most conservative) would be to use the historical record of actual rainfall distribution that has occurred over the last 10-15 years. Impacts to potential public water supply and the harbor will not occur under higher flow conditions, but will be greatest during lower flows (when mining will be retaining as much water from impounded areas as possible). The potential impacts of mining should thus be based on low flow scenarios rather than annual average conditions which mask the real potential impacts. The holding of water during the dry-season and beginning of the wet-season by mines until excess is accumulated in their circulation system, delays down stream flows and extends the dry-season low flow period downstream. This condition reduces water supply reliability and requires the additional investment in storage infrastructure and or the development of additional water resources by public supplies to compensate for mining impacts. The AEIS needs to discuss this large dry-season impact in greater detail and add this discussion to the economic impact section as well.

    - Figure ES8. This graphic isn't exactly correct. Mining will impact the estuarine portions of both rivers separately, by changing the spatial locations of the isohalines, which during lower flows are located well up into each of the lower rivers and not in the harbor. This graphic uses the much higher flows in the Peace to mask those flows in the Myakka. It seems a bit unrealistic to be using the constant rainfall (over time as done in the AEIS) while

also predicting increasing flows over time due to landuse changes that may or may not happen. It would have been more realistic to also predict changes using seasonal low, normal and high annual hydrograph/rainfall patterns, and existing, more realistic, and then the possible potential future landuses.

o Again, an issue with the AEIS is that it predicts that stream flows will increase due to landuse conversions from agriculture to urban, but it ignores the fact that base flows are currently augmented by agricultural discharges. These should have been subtracted before impacts are assessed. Urban land use in this area may very well require ground water as a source of supply. Currently most reclaimed mined land initially reverts to a mixture of natural and agriculture landuse. The AEIS needs to evaluate this possibility and the resulting impacts. Also the AEIS ignores implementation of newer storm water BMPs for new urban areas which would further reduce any predicted increases in flows as used in the models.

## Chapter 1 – Project Purpose

*1." There does not appear to be a worldwide shortage of phosphate rock. Total world phosphate reserves are estimated to be 18,000 Mt, compared to U.S. phosphate reserves of approximately 1,000 Mt. The total world mine production of marketable phosphate concentrate in 2010 was estimated to be 176 Mt, (USGS, 2011). However, as noted previously, the U.S. no longer produces a surplus of phosphate and instead is increasingly reliant on imported phosphate to meet increasing demands for food supplies in the U.S. and elsewhere (Litton, 2011). Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world. The political security of these supplies is lacking, with disruptions a common occurrence (Litton, 2011). Production of phosphate rock by Florida mines (including those in the CFPD and the PCS mine in Hamilton County) has averaged at 65 percent of the U.S. production for the last 5 years, with a majority of this (55 percent) being obtained from Mosaic operations (USGS, 20062010). "*

a Certainly there are plenty of economic reasons, but the AEIS seems to discount numerous impacts not associated with 404 dredge and fill permitting. The holding of water during the dry-season and beginning of the wet-season by mines until excess is accumulated in their circulation system, delays down stream flows and extends the dry-season low flow period downstream. This condition reduces water supply reliability and requires the additional investment in storage infrastructure or new supplies by public supplies to compensate for mining impacts. The AEIS needs to discuss this large dry-season impact in greater detail and add this discussion to the economic impact section as well.

2. Wetland and stream impact values in Table 1-5 aren't similar to those in the Executive Summary or in Table 2-3. There are many other instances where wetland areas, mine areas, stream impact values etc. are not consistent within similar summary tables within the document. There are summary tables in Chapter 5 under mitigation that seem to have better explanations of stream impacts. The values need to be better standardized among tables and sections using consistent terms.

3. The fact that the ACOE has chosen not to do a programmatic EIS for phosphate mining doesn't seem consistent with their rational for doing one for land develop in Lee and Collier Counties. The ACOE has done lots of programmatic EIS's for many area wide assessments where no new rules or regulations were under consideration, but rather changes in policies. Why isn't the ACOE actually considering potential new rules/policies under alternative 404 permitting when it comes to mining in the CFPD? Doesn't the entire discussion of buffers in the AEIS negate the underlying assumption, since buffers of such sizes would be an expansion of policy under the ACOE current permitting of phosphate dredge and fill permitting?

4. Although 404 is the big issue, it would seem that the ACOE (as previously stated) has other interests under water quality. Where secondary impacts of mining impact downstream water quality it would seem the ACOE AEIS would address these - such as phosphogypsum stacks.

### Chapter 2 – Alternatives

*1. "Two new mines will require construction of new beneficiation plants (Mosaic's Desoto and Ona Mines) and two new mines do not require additional beneficiation plants."* Since these and other existing chemical plants in the northern watersheds flowing to Tampa Bay have had a history of releasing pollutants to downstream waters, why are chemical plants and beneficiation plants excluded under the ACOE other considerations of the Clean Water Act?

*2.* The methodology for assessing off-site alternatives using GIS is both elegant and rationally applied. This exercise identifies potentially future prospective mining sites (assuming no intervening incursions by other landuses). Overall, these analyses provide a reasonable and useful approach to identifying other possible available future mining in the study area.

### Chapter 3 – Affected Environment

*1. "Phosphate mining operations as currently conducted by the phosphate mining industry in the CFPD fall into four major categories..*

- *Site preparation*
- *Matrix excavation and conveyance*
- *Beneficiation*

a *Waste management and mine reclamation"*

*"The last major component of phosphate mining as currently conducted within the CFPD includes the management of the clay and sand tailings from the beneficiation plant."*

The AEIS should also consider the final step of chemical processing plants which includes fertilizer production, creating the byproduct phosphogypsum and also requires the decommissioning of phosphogypsum stacks. — Both accidental and permitted releases from phosphogypsum stacks to downstream rivers have occurred and have had major impacts to water quality and the in-stream environment. The daily discharge of minimally treated phosphogypsum storm water downstream

during decommissioning of phosphogypsum stacks takes years to occur and has multiple impacts to downstream water quality both over short and longer term periods. These chemical processing impacts obviously fit into the above general issues listed in the AEIS. The AEIS assumes "severance" or completion of the mining process with production of the ore — and it would be, if the ore was shipped somewhere else, but chemical processing and phosphogypsum stacks certainly are parts of mining activities in the CFPD, and have and do cause impacts with water quality and water supply.

2. *"Some of the key issues of concern regarding the affected environment are the relative rates of mine block reclamation with this sand material, and the physical characteristics of the reclaimed land areas as compared to native, unmined lands -- again in relation to potential residual effects on recharge rates for the SAS, aquifer flow characteristics, and/or runoff rates contributing to steams and downstream river reaches"*

- The AEIS addresses the slurry movement of mined material to the beneficiation facilities, but does not seem to consider potential localized impacts of pumping substantial amounts of local water and transferring this water among different subbasins resulting from such practices. The primary focus of this section of the AEIS seems to be on the additional economic costs of extending piping greater than 10 miles.

- The AEIS correctly states that *"The annual contribution of the mine to downstream flows would not necessarily be zero because at times, excess water accumulations within the recirculation system would occur resulting in off-mine discharges through the permitted NPDES outfalls. However, the annual accumulation of water within the mine recirculation system will on an annual basis delay and shift down in time the normal stream hydrograph causing the dry low flow period to be extended. This condition has an impact on the reliability of public utilities that use the stream as a source of water supply. This condition causes as a minimum for the utility to find alternative sources of water or create additional storage to increase system reliability. The quantity and timing of water contributions to downstream flows would clearly not be the same as if the lands remained in the un-mined condition."*

- We suggest that many of the graphics presented on flows are a bit dated and might be updated not that it changes any of the conclusions drawn.

- The AEIS states that the "targeted" minimum flow is 130 cfs for the Peace River facility withdrawal schedule — which isn't exactly true — the 130 cfs is a threshold below which no withdrawals are allowed. That flow is based on the combined flow of the Peace at Arcadia, plus Horse and Joshua Creeks (USGS) gages. The flow naturally goes below this level and there isn't any District plan to try to maintain a given flow in the lower river - unlike the District's fish passage goal for the upper Peace.

- The AEIS states that: *"Phosphate mine operations can impact the SAS in a number of ways. The most direct impact is associated with the nature of phosphate mining as practiced in the CFPD, which involves extensive earthwork within the SAS itself. Groundwater dewatering is*

*accomplished through pumping of the SAS either from a network of shallow wells or through excavation of pits and pumping of water out of the pits."*

Since phosphate mining in uplands only would also impact groundwater and resulting downstream flows, should the non-action option still include mining in uplands only — or does the ACOE not comment on 401 CWA permitting?

- *"Although phosphate mining water use has been dramatically reduced since the 1970s, phosphate mines continue to use FAS withdrawals to provide supplemental water on an as needed basis. Evaluation of potential effects of expanded phosphate mining within the CFPD on the FAS will need to address the potential for aquifer drawdown impacts similar to those documented in the upper Peace River Basin. Typically, each mine's historical Water Use Permit provided a maximum annual average as well as either a maximum daily or a peak month withdrawal allocation, and through conservation and alternative water supply management strategies, the existing mines have succeeded in operating well below their permitted withdrawal limits."*

  While this statement is true, the use of ground water will always remain an option for the mines and in dry years the pumping of ground water can/will be increased significantly to make up for the lack of rain water contribution to the recirculation system. The AEIS needs to take this condition into account, and provide estimates of the amounts of water that will be needed and expected impacts under extended dry periods such as that which occurred between 2006 and 2008. The AEIS also does not document the total current amount of permitted and actual mining withdrawals. Should the AEIS evaluate/recommend that the currently permitted amounts of FSA withdrawals be reduced over time?

- The mining discharge graphics clearly show that the mines normally do not discharge much water during the drier months of the year. Suggesting that any analyses of the effects of mining need to specifically address dry-season flows and a shifting of the normal stream flow hydrograph and not focus on annual average flow reductions.

- The mined *"area is taken out of a given watershed or subbasin's surface water contributions to the watershed or subbasin's water budget except as allowed through discharges from the permitted NPDES outfalls. Over time, as portions of the mine are reclaimed and ultimately released from within the recirculation system, the total mine capture area is returned to the pre-mining condition, and its impact on the watershed or subbasin's water budget returns to zero."*

  The evidence provided by historic and current mines suggests that the alteration of soil structure by mining enhances recharge to deeper aquifers following mining and results in long-term alterations or reductions of surface flows (streams). Due to reclamation changes in topography and the creation of water features, mined lands generally have continued to retain water (per DEP water quality concerns) and often only discharge downstream under higher rainfall events. Thus mining can impact both the timing and quantity of water flowing downstream. The AEIS does not adequately address the timing of impacted flows but rather relies on estimates of average annual values over extended periods of time.

# Technical note

a The AEIS summarizes currently completed TMDLs within the study area. However, the State has proposed and EPA has accepted specific numeric water quality standards (as stated in AEIS). Using existing historic data, the AEIS needs to show how the various stream and river segment's water quality compares to the established standards. Will mining practices influence receiving waters? The AEIS states that higher concentrations of magnesium, orthophosphorus, alkalinity, and calcium were detected in water from streams at some of the reclaimed basins in studies by USGS. Existing available data needs to be analyzed to assess such increases in relation to recently adopted State numeric water quality criteria. It may be that alternate site criteria may be needed during permitting to address potential increases due to mining, and the AEIS needs to assess alternatives to meet these known higher standards.

USGS has found *"differences in values or concentrations for the ... properties or constituents between unmined and mined/reclaimed basins generally are small... Results of water quality analyses of samples from reclaimed basins generally indicated that shallow groundwater in these basins had higher concentrations of most constituents than shallow groundwater in unmined basins."*

If shallow groundwater in these areas has higher dissolved constituents, then shouldn't this be subsequently manifested in surface flows from these lands influencing both surface water quality and in-stream fauna. This issue alone leads one to wonder why the "no action" alternative allowing mining in uplands only would be acceptable and require no assessment by the ACOE.

- *"Gross alpha activity levels in water samples from streams in unmined basins ranged between 0.34 and 3.54 picoCuries per liter (pCi/L) as compared to 0.34 to 10.2 pCi/L from mined and reclaimed lands."*

These elevated conditions meet the drinking water standards, but should be of concern where public drinking water supplies lie downstream. Raw river water is stored in off-stream reservoirs and dissolved constituents can be concentrated during the dry-season by evaporation resulting in the potential for this parameter and others to increase above drinking water standards. This impact to the reliability and increased cost for additional treatment by public utilities needs to be addressed in the AEIS.

*a "While peak inorganic phosphorus concentrations in the Peace River and upper Charlotte Harbor remain high compared to rivers and estuaries that are not in phosphate-rich basins, the investigators reported that the phosphorus concentrations have decreased dramatically since the early 1980s (by as much as an order of magnitude at some locations)."*

True, the observed historic positive changes can be directly linked to alterations in discharge practices by mining operations. More recent PRMRWSA reports however indicate the return of very high OP levels following the start of decommissioning of the Whidden Creek phosphogypsum stacks.

# Technical note

- *"If multiple mines operating in a single subbasin resulted in a sufficient cumulative reduction in freshwater flows to an estuary, the changed flows could lead to an extension of higher salinity waters upstream into the river in turn influencing the species composition and structure of biological populations. Alternatively, if the multiple phosphate mines had surface water discharges that sufficiently differed from the natural water quality of streams draining a subbasin, those changes in water quality could also potentially cause shifts in aquatic community characteristics. For these reasons, it is appropriate to characterize the general conditions of the estuarine aquatic communities currently present within the tidal reaches of the key river watersheds within which future mining projects are proposed"*

  This seems like a very reasonable assumption but the AEIS also needs to evaluate these mining impacts as it relates to downstream water supply. As stated before the AEIS needs to evaluate these matters in greater detail by determining impacts during dry season conditions and not allow the process of averaging stream flows hide real impacts to the estuary and public supply.

- Aren't the cumulative magnitude of the project changes in flows (which would be much greater during seasonal extreme low flows) conflict with the Myakka River designation of OM under "Wild and Scenic".

- AEIS states that the most recent Peace River Facility water use permit modification was in April 2011 — there are actually two permit modifications following that date. The AEIS needs to update this section.

- Since the City of North Port is provided water by the Authority during the dry-season, any reductions of flows down the Myakkahatchee Creek (Big Slough) would require the Authority to supply additional water for a longer extended dry season to the City — and thus affect both utilities. The AEIS needs to address such economic costs to currently permitted users.

- Horse Creek, Myakkahatchee Creek, and Peace River might receive some level of consideration above standard Class III standards, where changes in water quality are concerned since they are public supply sources and changes in water quality could reduce their ability to seasonally withdraw water reducing system reliability. Such issues as additional water storage, alternative water resources and additional treatment to treat water quality changes are not included under the economic analyses.

- The AEIS states: *"Any phosphate mining effects which substantively reduced water deliveries through the river to flow rates which increased the risk of inhibiting the Authority's ability to withdraw raw water would be of major concern to this water supplier. Additionally, any substantive change in water quality characteristics of the river water which altered the water treatment plant's ability to achieve potable water standards without treatment system upgrades would be of concern in that such would impact plant operational costs."*

  All true, but the AEIS must also address the shift in the normal hydroperiod impacting system reliability, requiring the addition of more storage capacity and the economic impacts this would cause, especially later under the cumulative impact section.

- *"While peak inorganic phosphorus concentrations in the Peace River and upper Charlotte Harbor remain high compared to rivers and estuaries that are not in phosphate-rich basins, the investigators reported that the phosphorus concentrations have decreased dramatically since the early 1980s (by as much as an order of magnitude at some locations)."*

  This statement is true, given the older report cited. However, more recent Peace River Facility HBMP Annual Data reports (2008 through 2011) submitted to the District have shown recent marked orthophosphorus increases in the lower Peace River and upper Charlotte Harbor due to dry season discharges during closure of the phosphogypsum stacks in the Whidden Creek subbasin.

### Chapter 4 - Environmental Consequences

- **Habitat Evaluation.** Rather than use all or nothing could priority scores be used to set buffers around wetlands and rare/unique habitats? The AEIS should consider combining variable buffers based on scoring. The approach seems reasonable, as long as its application accounted for contiguous groupings of outparcels and reasonable mining constraints.

- The buffer sizes evaluated in the AEIS seem almost to be of such unreasonable sizes as to preclude any use of buffers as an effective method of on-site mitigation.

- **Groundwater.** *"The USACE concluded that an independent analysis of FAS impact potential that went beyond the available information was needed. A groundwater flow model was developed to support AEIS evaluations of the potential effects of the four proposed new mines' water supply withdrawals on groundwater levels in the FAS. .... Ona would require new water supply wells and an allocation from the FAS. Desoto is proposed to rely on water supply drawn from an existing phosphate mine well system, with pipeline conveyance to deliver the water to the new mine location."*

  If the FAS is already impacted (SWUCA), then how can AEIS skip analyzing the impacts of transferring water from an old mine to a new mine in the cumulative assessment? Yes, transferring withdrawals from one mine to another doesn't make any new impacts, but by the same token it also doesn't allow the current impacts to go away with the closure of the old mine as was originally envisioned under the existing water use permit. Finally the existing mine's need for water and the new mine's need for water will overlap and the impacts significantly greater during this period.

  - The inability to assess the no action alternative shows the flaw of the underlying assumption when assessing impacts - mining uplands would still require water from the FAS

  - Again, annual average FAS were used to model groundwater withdrawals — is this the conservative way to do this? Existing data would suggest that maximum drawdown

would occur in the dry-season when there isn't any rainfall to use and agriculture groups are also irrigating crops?

- *"Conversely, it is acknowledged that under drought conditions, increased pumping rates and longer duration FAS withdrawals can be needed. For this AEIS evaluation, however, the analytical focus was on long-term average conditions and the conservative approach adopted was to conduct the model simulations using the annual average allocation rates".*

  The AEIS is not conservative enough when considering the impacts to downstream flows and public water supplies. Wouldn't it have been "more" conservative to adjust to max day withdrawals during the dry-season and adjust the wet-season to come out with the same annual average?

- The model simulations "assumed" that the District would meet a 50 mgd reduction in permitted agricultural groundwater use goal by 2025. Wouldn't it have been "more conservative" not to include these reductions, which may not occur depending on urban demands for land - let alone more regional demands in the CFPD for potable water?

- Surface Water: *"Surface water analyses will consider the potential effects of each of the four proposed actions for the expected life of each of those actions, plus the cumulative effects of the four proposed actions plus the two reasonably foreseeable actions from the 2010 baseline condition through 2060". "*

  *"During phosphate mining, much of the direct rainfall on a given mine area is captured and held within a mine's recirculation system, consisting of a network of open-channel ditches and canals, clay settling area impoundments, and a network of pipelines used for conveyance of water, matrix, sand, and clay slurries. Following capture, the water is used and reused to support these conveyance functions. Therefore, on a long-term average basis, there tends to be less runoff from active mines to downstream water bodies."*

  This seems to acknowledge major sources of impacts to stream flows and the shifting of the normal hydrograph. The method used to evaluate impacts used the following four premises:

  1. *"The method needs to account for runoff differences between different soils and land uses.*
  2. *The method should support analysis of affected subbasins as well as the overall river watersheds within which the subject mines are located.*
  3. *The method should account for a seasonal component since central Florida has distinct dry and wet seasons.*
  4. *The method must account for changes in land use, including mining, far into the future (to 2060) with reasonable accuracy and sensitivity."*

  Number three above wasn't adequately addressed in assessing maximum seasonal impacts to flows and potential downstream water supplies. A relatively simple U.S. Environmental Protection Agency (USEPA) method was used to predict annual runoff.

- Given the current state of economic affairs and an expected long recovery time, previous long-term landuse projections seem unrealistic and/or at best very high estimates. Converting large portions of the watershed to urban in the AEIS model is certainly going to result in more runoff than currently occurs and may seriously underestimate mining impacts. In the recent past most reclaimed lands have initially reverted to a mixture of natural and agriculture land uses. Florida currently has a strong program to require storm water retention in urban development reducing run off rates. Due to new nutrient and TMDL regulations urban runoff may be even less in the future. If urban development does occur then public water supplies will need to come using more surface water sources since ground water is already over pumped (SWUCA). Given these conditions, the estimates of greater flow over time seem unreasonable or at least high estimates. Wouldn't it have been more conservative to also analyze existing and much slower land use changes?

- A water quality impact not discussed in the AEIS is when mined land is reclaimed then converted to agriculture use. The swales used during mining to convey water / clay slurry remain on the reclaimed land and becomes part of the land's internal storm water system. A high rainfall event (example 6 inches in 8 hours) has the potential to scour legacy material from the bottom of these swales, blow out converts and deposit this material downstream to the river.

- Economic Impacts

  The AEIS evaluates three classes of economic impacts:
  1. *Direct*
  2. *Indirect*
  3. *Induced*

  Why doesn't it evaluate the same suite of criteria under environmental? It would make sense to look at processing (chemical) and phosphogypsum stack closures under the same criteria (indirect/induced).

  o Since the economic analyses looks at areas outside of the direct mining (404 permitting), it seems only consistent that the AEIS should also look at the impacts of chemical processing and phosphogypsum stacks.

  a Neither the text nor Appendix F seems to address potential impacts on water supply in any of the watersheds, although phosphate mining (direct and indirect impacts) is expected to impact Tampa Bay Water, City of North Port and the Peace River Water Supply Authority's operations. Peace River will have to supply additional water to the City of North Port, and will have to withdraw more and store more high flows to supplement losses under lower flows. The Authority may also have to find alternative water supplies, add additional water storage as a result of shifting normal hydrographs and add additional treatment technologies to treat declining water quality changes from mining and chemical plants.

# Technical note

- In comparing alternatives to the no-action alternative the AEIS seems to suggest that mining areas and then restoring them (with some restored lands in conservation easements) would be a benefit to having them converted to agriculture or range land. This conclusion seems incorrect in that numerous public Florida agencies have strong programs to purchase and preserve lands. The AEIS seems to have conflicts that while some of the evaluations assume that the mined reclaimed land will revert to agriculture/urban development (post mining flow calculations), other portions of the AEIS assume that significant portions of mined reclaimed land will be placed into conservation.

  Impact summary Tables — The numbers used in the summary tables don't seem to match the numbers in the ES text, and then table 1-5 uses other numbers. It would be helpful to the reader if all these tables were based using the same criteria.

- Habitat impacts of all the alternatives were analyzed. However, the hydrologic impacts on stream flow were only analyzed for the first two series of alternatives: 1) proposed, 2) expected.

- The AEIS states that under the no-action alternative (no mining at the four new mines) the current demand for water from the FAS *"would be reduced and over time this demand for supplemental water to support the remaining activities on phosphate mines would drop to zero"*. This statement supports the view that projected impacts to the FAS in the AEIS can't be based on the "fact" that two of the "new" mines aren't going have impacts to groundwater.

- The AEIS states that if mining doesn't take FAS water then someone else will. If mining does take the FAS water, AEIS evaluation cannot assume that other watershed demands (urban/agricultural) won't be simply shifted and total impacts will be further increased.

- Generally agree that water quality associated with mining directly isn't usually much of an issue - the problems are associated with discharges from secondary impacts under low flow conditions.

- On-site alternatives used buffers of 1500, 3000 and 6000 feet. These alternatives seem a bit unreasonable in that almost by definition the larger buffers were bound to make mining economically difficult. There are many instances of environmental buffers being applied in Florida with ranges from 1500 feet down rather than up.

- A cynical observer might suggest that the unreasonably large buffers were selected to fail, rather than using a more reasonable approach based on existing buffer criteria used in other instances for the protection of Florida wetland habitats.

- The AEIS states: *"The Florida Department of Environmental Protection (FDEP) maintains a Phosphogypsum Management Program that regulates (permitting, compliance, enforcement) the design, construction, operation and maintenance of*

*phosphogypsum stack systems. It ensures the proper closure and long-term monitoring and maintenance of those systems which have concluded useful production, or which are otherwise required by rule to be closed. The program also administers financial responsibility requirements designed to guarantee that owners/operators have the financial ability to properly close and manage the stacks."*

Since in practice this hasn't been the case, the AEIS should list the impacts seen to date, and address how these will be mitigated in the future.

- Again, why are phosphogypsum stacks under "Non Significant Impacts"?, since stack decommissioning impacts both water quality (biological) and water supply for the years it takes to complete under seasonally low flow conditions.

* **Cumulative Impacts** - This section pretty much summarizes those items already present. No real new comments.

- **Economic Resources** — Shouldn't this section include both positive and negative economic components separately so the reader can see what was and wasn't included? The economic values presented in the text and appendix includes indirect and induced economic factors. Shouldn't such types of factors also be included in the environmental impacts section?

  - What is the potential economic value of the wetlands and streams to be impacted by mining? What is the economic value of agricultural land that will be lost during mining? There are lots of estimates of the value of native habitat available (CHNEP documents). Seems a stretch to argue that if it isn't mined then it will ultimately be converted to other land uses given both the history of preservation and current wetland rules governing urban development.

- **On-site Alternatives** — *"Buffers have been imposed for many projects in Florida and elsewhere to provide a zone of protection between the proposed activity and streams, wetlands or other areas that may benefit from such a setback. Benefits provided vary with the resource to be protected and the type and width of buffer".*

  "Imposed" seems a bit negative, wouldn't "utilized" been more appropriate? The justification for using 1500, 3000 and 6000 ft as buffers is stated as being based on scoping comments that buffers up to half a mile might be evaluated, while at the same time the AEIS states that much smaller buffers have been suggested/applied for wetland protection. It seems only logical that more reasonable buffers should have been evaluated, rather than analyzing buffers which obviously would have negated most (if not all) mining over most of the proposed sites. The set back distances of 250, 500 and 1500 feet would have been much more realistic buffer sizes to evaluate given both the literature and obvious economic impacts to mining of the actual selected buffer alternatives? Recommend that given the amount and distribution of wetlands/streams/high value habitats on the proposed sites, that this entire section of analyses be redone using realistic buffer sizes using more realistic buffer widths.

# Technical note

- Don't agree that phosphogypsum stacks are "non significant" issues in the CFPD, given that the state recently spent hundreds of millions of dollars on Piney Point, and discharges from stacks have caused degraded water quality in the CFPS watersheds. They are located in the study area and their number and extent are directly a result of past and future phosphate mining. The proposed mines will increase the need for such facilities and add to the recently observed impacts/costs of stack closures. They have not only environmental impacts, but also potential economic impacts for existing /future public utilities using surface water supplies in the CFPD and such impacts needs to be included in the AEIS.

- Aesthetics — It seems a bit much to state that clay settling areas provide a positive scenic relief to an otherwise flat landscape. There seems to be a fairly broad opinion outside of the mining community that they are a relatively unattractive long-term addition to the landscape.

- Cumulative Impacts. The AEIS addresses cumulative impacts direct and indirect effects of the proposed actions and the alternatives, USACE lists the following topics relative to potential cumulative effects of mining:

  *I. "Aquatic Resources and Upland Habitat: Loss of streams, freshwater wetlands, and natural uplands.*

  2. *Floridan Aquifer Water Levels: Mining contribution to regional aquifer water level drawdown due to water supply withdrawals by all FAS users authorized by SWFWMD*

  3, *Surface Water Hydrology: Alterations to surface water deliveries to downstream portions of the watersheds affected by the various mines with concurrent operational periods, and other reasonably foreseeable land use changes.*

  *4. Surface Water Quality: Alteration of water quality of streams and river reaches receiving direct discharges from phosphate mines in relation to agricultural, urban, and other man-induced changes in land uses affecting point and nonpoint pollutant loading.*

  5, *Economic Effects: Net changes in regional employment and overall economic productivity associated with mining as related to agricultural influences on these economic metrics, as well as in relation to indirect and induced effects on the regional economy".*

  Again the draft AEIS in this discussion of cumulative impacts (as in previous comments) does not adequately address public water supply issues (quantity and quality) for either the existing permitted uses by the City of North Port (Myakkahatchee Creek) or the lower Peace River (Authority). The AEIS needs to better address these cumulative criteria relative to both direct and indirect effects. The AEIS needs to specifically address cumulative impacts on dry-season flows on the seasonal availability of public water supply quantities, as well as the potential cumulative impacts of phosphogypsum stack closures on water quality. The AEIS needs to address the cumulative economic costs of developing additional storage/supplies by public suppliers given these expected cumulative impacts.

# Technical note

- **Groundwater** — *"the modeling results show that the influence of the phosphate mines is overshadowed by the effects of all of the other users combined."*

  Previously developed future landuse estimates might better be viewed as "pie in the sky" since such planning estimates have always reflected more or less maximum potential changes over time. Currently such estimates seem less rather than more likely (or at least pushed back several decades). The District's estimates of recovery of groundwater levels also seems (at best) a bit optimistic given the fact that rainfall over 9 of the past 12 years has been below the longer term average used in the AEIS, and that conversions from agriculture to urban have slowed dramatically. Wouldn't it have been more realistic for the AEIS to have run the groundwater models using: 1) current landuse; 2) some intermediate rate of conversion; and 3) the estimates used. This would have provided a much more accurate range of values rather than the unrealistic specific levels shown in the draft AEIS. An EIS is a planning document that should provide decision makers with 1) worst case; 2) best case 3) mid case estimates of expected impacts of the alternatives when something as nebulous as predicting future groundwater levels is concerned. This would provide a range against which potential benefits of the 'Action" alternatives can be assessed more realistically, rather than using a single set of model assumptions (which can't be accurate given the high range of uncertainly given the magnitude and/or timing of the assumptions). There simply isn't any accurate "best available information" in this instance, but rather use of ranges of best available guesses, which warrants an alternative approach to assessing potential future groundwater impacts. Again, why didn't the AEIS use the District's integrated surface/groundwater model?

  **Surface Water** — Modeled impacts to surface flows are presented as changes in annual averages. Potential impacts to both downstream estuarine resources and public water supplies however can't be based on annual averages. These potential impacts will be driven by maximum changes over much shorter durations (not using normal year and dry year rainfall as presented). The AEIS needs to address estimated seasonally based changes annual average hydrograph, and not simply annual averages which can mask short periods of large changes by averaging in longer periods of little impact.

- **Water Quality** — The AEIS states that *"under the currently applicable rules, FDEP certification of compliance with the applicable CWA provisions is likely but under the new pending NNCs, there is some question of whether state certification will be granted without requiring additional water quality improvement provisions... eventually load-based Total Maximum Daily Load analyses leading to Basin Management Action Plans will be likely in the AEIS study area, and these ultimately will affect the interests of phosphate mine operators in the future."*

  Given this statement, and the fact that these new rules are in the process of implementation, isn't it incumbent on the AEIS to address how these new mines are going to meet these greater upcoming criteria — especially the numeric criteria.

- **Economic** – The presented economic impact assessment evaluates direct, indirect, induced, and total net benefits. These same criteria need to be assessed under environmental also, which shouldn't be limited to just the direct presented impacts.

## Chapter 5 – Mitigation

The Compensatory Mitigation Rule or the 2008 Mitigation Rule (33 CFR Parts 325 and 332) designates methods to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function, and to increase the efficiency and predictability of the mitigation project review process. The phosphate industry has made significant strides in mitigating wetland and stream impacts. The draft AEIS does a good job of laying out a series of idealized mitigation goals/objectives. However, there seems to be a lack of alternatives to specific mitigation approaches that will be required under the needed 404 permits or any specific target performance metrics/criteria that will be required and/or implemented.

The AEIS states a number of times that the goal of mitigation will be to replace biological function. Is the ACOE going to require more than "one for one" replacement? What performance metrics will be required?

This section does an excellent job of describing what "can/should be" done given the current status of available mitigation technology. However, the AEIS does not state that these methods "will be" required under the applicable 404 permitting, nor does it set specific performance criteria/metrics that will be met.

**Chapter 6 — Compliance with Environmental Requirements**

## Comments on Appendix E

- "The AEIS needs to apply estimated land use and weather patterns for up to approximately 50 years into the future." Maybe, but depending on the underlying assumptions used, these can have lots of issues.

- The model effort used rainfall from 1985 through 2011 — which makes sense, avoids wetter period in the 30s through the 50s.

- "Projections in land use changes were developed primarily based on the rate of change observed since 1990. Landuse projections through 2060 were developed in 10-year increments (2020, 2030, 2040, 2050, and 2060)." The reference period selected was a very high growth period. Seems unlikely that the same rates of growth will continue into the future.

- The discussion of how flow estimates were made doesn't say how rainfall was seasonally partitioned - 40/60%? The method used completely negates any assessment under wetter or drier periods - during droughts mining impacts to dry season flows are expected to be far more than the normalized annual flows used in the AEIS.

# Technical note

- The method used in the AEIS completely ignores the potential for extended periods of drought, which result in seasonal periods of flows which impact available water under low flow conditions causing system reliability concerns for downstream public water supplies

- The method provides some estimate of overall annual changes in flows, but these would be far smaller than those expected to be seen during drier time intervals. Stated another way the AEIS evaluation has concluded a more positive impact by evaluating this condition on an annual basis. The AEIS needs to consider the worst conditions that will occur when annual rainfall is less than 40 inches (year 2000). Under this scenario stream flows were low for 8-9 months while water suppliers were required to meet daily public demands. New proposed mines will increase the period of low flow while filling their recirculation systems.

- To account for this the AEIS simply uses 50 inches/year over time to estimate normal rainfall, and the 43 inches/year over the "entire" time period to look at low flow years. The AEIS isn't specific how these numbers were derived. Figures 3 and 4 in Appendix E definitely shows that the coastal Myakka watershed, on average, has more rainfall than the Peace River watershed

- These flow estimates also assume that runoff coefficients in the watershed will go up with time due to urbanization. Urbanization may not occur. Increasing coefficients used may or may not also be true in practice, since under both District and TMDL best management practices (BMPs) existing/historic runoff is expected to be reduced from current levels. The AEIS probably is overestimating changes in flows based on landuse if new development follows currently required BMPs for new land development.

- What isn't accounted for is that currently agriculture is "augmenting" dry season base flow in both the Peace and Myakka watersheds. If agriculture acreage is replaced by urban, then the current augmentation will no longer occur. The higher runoff coefficients used in the AEIS (assuming landuse changes) will at best simply replace the loss of current dry-season augmented flow (on an annual average basis), but not in the dry-season.

- DeSoto Mine analyses predict maximum percent change in Myakka annual flow, and "negligible" change in Peace River at Arcadia flow, under 50 inches average. Under low rainfall conditions the estimated maximum change was again 6 percent.

- Ona Mine analyses predicts, under 50 inches annual average rainfall, to result in 8.5 percent maximum decline in the annual average flow of Horse Creek — analyses indicates "minimal" change in Peace at Arcadia. The AEIS then uses 43 inches annual average and generates a 6.0 percent change (again uses that value over the entire time period).

- Analyses for the Wingate East mine were made for the upper Myakka River gage near Sarasota. "Difference between the annual flow with and without the Wingate East Mine in the Upper Myakka River subwatershed during low rainfall conditions was estimated to be negligible."

# Technical note

- South Pasture Extension Mine. The AEIS methodology predicts annual average changes to the Peace River at Arcadia to be "nominal", and 4 percent in Horse Creek flow. "Effects of this mine extension on Peace River at Arcadia subwatershed flows during low rainfall conditions are estimated to be negligible."

- Pine Level/Keys mine. O.K., it's here that we find out that the EIS is using 50 inches for all the calculations of rainfall above based on Peace River rainfall, and 53 inches for Myakka "normal" rainfall (this should be explained much earlier to save the reader some confusion). Estimated maximum change of 6 percent flow in Big Slough flow under both 53 and 43 inches of annual rainfall alternatives. Under normal rainfall years the City of North Port is not able to use their water supply for 4-6 months due to low flow and poor water quality. Any increase in this no-withdrawal period will have direct impacts to North Port and the Authority who supplies water to North Port during these annual periods. What would be the economic cost of such impacts to the City of North Port Water Supply on both them and the Authority (who would have to make up the extra supplies).

- Pioneer Mine is predicted to change flows to the Peace River from Horse Creek of 2 percent under 50 and 43 inches of rainfall, and no perceivable change at Peace at Arcadia.

- All mines combined — "all three mines and the foreseeable mines" in the Peace River /Horse Creek watersheds.

- 16 percent change in the river flow with an annual average rainfall (50 inches) in 2030 and only a 13 percent change in river flow under 43 inches of rain — the AEIS method actually hides the real dry-season changes.

- AEIS model has concluded that no change in flow will occur for the Peace River at Arcadia this conclusion might indicate that the model assumptions don't work all that well. The fact that the model shows far more impacts under wetter conditions than dry conditions indicates that it has issues with regard to really estimating flow impacts during drier periods of time.

- When total Peace River (including Shell Creek) are added the total reduction in river flow is 2.4 percent of the flows to upper Charlotte Harbor by the Peace. Obviously, it would be a bit higher at the Authority intake.

- A 2 percent reduction in total flow is the maximum estimate from the Myakka to Charlotte Harbor.

- When combined the total maximum projected impacts on freshwater flow to Charlotte Harbor would be approximately 2 percent.

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000372 |
| **Received:** | 07/31/2012 03:52:09 PM |
| **Organization:** | Rachel Renne |
| **Commenter Type:** | Private Citizen |
| **Classification:** | Substantive |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | |

General
Dear Sir or Madam,

My name is Rachel Renne. <([#1 [4]I am a lifelong resident of DeSoto County, and a property owner therein. I am writing with regard to the consideration of the application for the Clean Water Act permit for phosphate mining in the Central Florida Phosphate District. After reviewing the Environmental Impact Statement prepared by the Army Corps of Engineers and personal consideration of the issue, it is clear that the election of the No Action option is the favorable avenue for our future. #1])>

<([#2 [45][32]The Economic Analysis, as presented in Appendix F has thoroughly examined the economic implications of both mines and beneficiation plants within the pertinent counties, as well as summarizing the impacts for the entire region. Page 6 of Appendix F clearly outlines the areas considered in the analysis, including total output of production from the mines, the number of jobs anticipated, the wages and salaries, the Gross Regional Product, and the tax income projected (conservatively) for the counties. Within this analysis, however, several important factors have been neglected. The land has been analyzed for its agricultural output currently, and future projections with and without mining have been examined. With mining, agricultural output of the land is projected to decrease dramatically, for example, in the projections for the DeSoto mine, the agricultural output decreases from $15,800,000 in the first decade to $4,100,000 in the fifth decade. Not only is this decrease significant in the face of the growing population of the United States and the world, with its associated increased demands for food, but agriculture is also only a portion of the losses that will be associated with mining. #2])>

<([#3 [42][45][3] The Economic Analysis fails to account for the serious environmental disruption associated with phosphate mining. In Chapter 4 (page 30, section 4.3.1 lines 1-3) the No Action alternative is presented as favorable to wildlife in that no disturbance of the land would allow the populations to remain in place. What is the monetary value of an undisturbed ecosystem? It is difficult to appraise the value of an ecosystem to humans. Wetlands are recognized as vital to water quality and as the Peace River serves as a major source of drinking water for Charlotte County, the maintenance of the wetlands in the Peace River watershed alone is vital to the health of the human communities in this region of Florida. In addition, the disturbance of mining is certain to disrupt ecosystem functions such as carbon sequestration by vegetation, recycling of nutrients by decomposers, and pollination. The latter is of special interest to a society that relies upon pollination for many agricultural crops, including Florida's proud orange industry. The increase of disease in honeybee populations is a global issue, and with it comes a need for alternative pollinators. Natural areas, undisturbed by development serve to harbor a diverse array of native pollinators

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52622 |
| **Hide Submitter:** | ☑ |
| **Commenter Type:** | Private Citizen |
| **Name Prefix:** | |
| **First Name:** | Rachel |
| **Last Name:** | Renne |
| **Name Suffix:** | |
| **Title:** | |
| **Organization:** | |
| **Division:** | Not Applicable |
| **Address Line 1:** | P.O. Box 1644 |
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| **City:** | Nocatee |
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| **Number of Additional Commenters:** | 0 |

Submission number 372

that will travel to neighboring agricultural areas. The loss of these pools of pollinators is difficult to monetarily quantify, and has not been considered by the Environmental Impact Statement. #3])> <([#4 [3] [32][40] Please also consider the implications of the mining on another of DeSoto county's growing industries; tourism. Arcadia is a town undergoing a brilliant revitalization of its historic character, which is increasing its attractiveness as a tourist destination. The two major routes for accessing Arcadia from the coastal cities are Highways 72 and 70. The DeSoto mine would border both of these highways, marring the now peaceful drive for visitors. I am concerned for the impact of mining activities upon Myakka State Park as well, which, although it is located in Sarasota County, it is a major ecotourism destination for our area. #4])>

<([#5 [7]To allow this mining to proceed would be a detriment to the quality of the environment in the southern region of the Central Florida Phosphate District. The costs of such violent disruption to the wetlands and natural communities that remain in this region are difficult to quantify, but will prove to be much higher than the gains in phosphate revenues, severance taxes, and wages and salaries from the operation. Phosphate is a nonrenewable resource which entirely re-sculpts the landscape; an aerial view of the northern reaches of the Central Florida Phosphate District reveal little more than a network of pale-blue of settling ponds and pits. Our region of southwest Florida has many other renewable resources (such as agriculture and tourism) that will prove, ultimately because of their renewability, so much more precious than phosphate.
#5])>Sincerely,
Rachel Renne

Audubon FLORIDA

Submission number 373

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July 30, 2012

John Fellows
AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302
Submitted Via Email: *teamaeis@phosphateaeis.org*

Re: Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Phosphate Mining District

Dear Mr. Fellows:

I write on behalf of Audubon Florida (AF), the state program of the National Audubon Society led by the board of the Florida Audubon Society. Audubon Florida helps to coordinate the efforts of 44 local Audubon organizations which share a commitment to conserve birds and other wildlife, and the habitats on which they depend.

This is to comment on the Draft Areawide Environmental Impact Statement (AEIS) of the Jacksonville District Office of the USACE for the Central Florida Phosphate District (CFPD), an area of approximately 1.32 million acres. The CFPD is significantly impacted by past and current mining activities and where applications for four mines covering approximately 50,000 acres are pending. Additional applications for approximately 65,000 acres of future mining are anticipated. It is our understanding that the final AEIS will cover a range of environmental and other issues and will be used to guide decisions on the four pending permits and other anticipated permits. The requirement of conducting an AEIS to review past, current and future cumulative impacts is appropriate for federally permitted activities of this scale. The Draft AEIS makes a distinction between past and current practices. Audubon's comments are limited to the Draft AEIS and the topics discussed therein. Comments are made on procedural and substantive issues with the general objective of minimizing short-term impact and avoiding long-term harm to wildlife and water resources.

As the Draft AEIS demonstrates, phosphate mining is one of several land uses that impact wildlife habitat. The other principal uses are agriculture and development to support population growth. The Draft AEIS was reviewed with the expectation that phosphate mining had the greatest impact, but the draft appeared to also identify major impacts from other human activities and suggests that much of the impact to water resources is related to agriculture. Nevertheless, phosphate mining does have a major impact on the environment, so the approach in permitting (to the greatest degree possible) should be to limit ecological impacts and to provide net benefits that improve habitat impacted by other land use activities and by previous mining. The Draft AEIS discusses the major land use impacts on the watershed - population growth, agriculture

and mining, but limits its focus to mining impacts. Other federally supported, funded and permitted projects that spur agriculture and development should also be considered in a study of cumulative impacts. Consideration should be given and comparison made in the review of the impacts of the three types land uses and of the degree to which they may provide net compensatory benefits. Audubon favors restricting development in the CFPD which impacts water and wildlife while providing no compensatory benefit.

Recommendations for the final AEIS

**Overall Procedural Concern**

The AEIS, as anticipated by the Charlotte Harbor National Estuary Program when it recommended such a study, will set the stage for the extent of phosphate mining impacts on wetlands, streams and downstream estuaries for the short, medium, and long term future. Therefore it is important that the final document take into consideration the full range of cumulative impacts of phosphate mining as well as opportunities for improving conditions for wildlife throughout the Central Florida Phosphate District and the watersheds in which it is located.

**Substantive Concerns**

1. Cumulative analysis of impacts
2. Health of the estuary formed by the flow of rivers and streams into Charlotte Harbor
3. Surface water flows to the Peace and Myakka Rivers and their tributaries
4. Health of wetlands, streams and floodplains impacted directly by phosphate mining and reclamation activities and the benefit of buffers, avoidance and minimization.
5. Mitigation
6. Relationship between required reclamation and mitigation
7. Benefits of water conservation and beneficial release of onsite stormwater
8. Integrated Habitat Network (IHN), Critical Lands and Waters Identification Program (CLIP) and the Integrated Wildlife Habitat Ranking System (IWHRS)
9. Wildlife Impacts
10. Potential effect of climate change on rainfall and seawater intrusion related to sea level rise

**Cumulative analysis of impacts:** The final AEIS should be based on a comprehensive cumulative analysis as the context for modeling impacts of any future expansion of mining. This should involve taking into account the persisting impacts of past and present mining along with those expected from future expansions.

**Charlotte Harbor Estuary Health:** As the Draft AEIS notes, the estuary is formed by the flow of rivers and streams into Charlotte Harbor. Audubon agrees that "the high productivity of Charlotte Harbor, in its entirety, results from its diverse assemblage of

habitats, which include seagrass beds, mud flats, sand flats, mangrove swamps, salt marshes, and oyster reefs. All of these types of habitats are found within the Charlotte Harbor Estuary including the transition zones into the tidal reaches of both the Peace and Myakka Rivers." Reductions in surface water flows could have a harmful impact on the above listed habitat types, many of which are used by birdlife. Birdlife should be used as a measure of estuarine health with an emphasis on American Oystercatchers and Reddish Egrets. The final AEIS should require that new mining activities minimize reductions in flows to the Charlotte Harbor Estuary. Other than evapotranspiration, mining does not cause water to disappear. Mining permits should specify that, to the extent practicable and consistent with other required practices (including those concerned with water quality), stormwater management systems be operated to release rather than hold stormwater onsite. As part of compensatory activities, applicants could be asked to conduct off-site improvements to (primarily agricultural) drainage systems that have the effect of flash draining stormwater into streams and rivers.

The low estimate of freshwater impact on Charlotte Harbor reported in the Draft was unexpected. Therefore, given seasonal differences in water deliveries, Audubon Florida recommends that impacts be measured during peak and non-peak flows as well as projected during periodic droughts. From a wildlife perspective peak flows are important for the purpose of saturating floodplains and rehydrating wetlands. Non-peak flows are important as low flows could lead to a shortened hydro-period for floodplains and partially isolated wetlands. Key foraging areas for birds are formed and enhanced by floodplain saturation.

**Surface water flows to the Peace River and its tributaries:** The draft AEIS suggests that overall reductions in groundwater withdrawal in some existing mines may lead to future improved surface water flows at the same time the proposed mining alternatives may impact flows. Audubon is concerned about the potential 16% reduction in flow to Horse Creek (see 4-232). The AEIS should better explain the causes of this reduction. As noted above, mining permits should specify that, to the extent practicable and consistent with required practices, stormwater management systems be operated to release rather that hold stormwater onsite. As part of compensatory activities, applicants could be asked to conduct off-site improvements to (primarily agricultural) drainage systems that have the effect of flash draining stormwater into streams and rivers.

**Health of wetlands, streams and floodplains impacted directly by phosphate mining and reclamation activities and the benefit of buffers and avoidance:** Audubon urges avoidance and minimization of impacts to wetlands, streams and floodplains . These habitats are most likely to host birds. Note that Audubon ornithologist Herb Kale counted 169 different species in this region in areas that had and had not been mined. In addition to the three buffers modeled in the draft, the AEIS could additionally evaluate other site specific buffers. Where wetlands, streams and floodplains cannot be avoided, on-site mitigation and reclamation should be designed to reduce the period of loss of function. The draft demonstrates that during pre-mining and mining activities the surficial aquifer system is drawn down. This has the potential to

harm, at least temporarily, wetlands. The final AEIS should include information about loss of wetland function during dewatering and how to compensate for it. Where appropriate, mitigation could include compensation for these short-term impacts. As part of compensatory activities, applicants could be asked to conduct off-site improvements to (primarily agricultural) drainage systems that have the effect of flash draining stormwater into streams and rivers and draining isolated and other wetlands.

**Mitigation:** The draft does not effectively evaluate current state of the art mitigation for phosphate mining or evaluate mitigation in concert with state required reclamation. Mitigation should be required to replace type for type lost wetland functions and to demonstrate over a long period the effectiveness of the outcome. Additionally as part of compensatory activities, applicants could be asked to conduct off-site improvements to (primarily agricultural) drainage systems that have the effect of flash draining stormwater into streams and rivers and draining isolated and other wetlands.

**Relationship between required reclamation and mitigation:** As noted above, the draft does not adequately show the relationship between state required reclamation and federal mitigation. The draft does suggest that some mitigation could take place on non-reclaimed lands. This could have system wide benefits but it may be limited by the need to keep mitigation within the impacted basin.

**Water conservation and appropriately timed release of stormwater:** The draft notes significant improvement in efficient use of process water in phosphate mining activities. Audubon urges continued research into and use of practices which reduce the use of water. Onsite stormwater collection systems should be managed to reduce harm and potentially help with timing of seasonal flows to streams, floodplains and the downstream estuary.

**Integrated Habitat Network, Critical Lands and Waters Identification Program (CLIP) and the Integrated Wildlife Habitat Ranking System (IWHRS**): The draft does a good job of describing these planning tools, which should be used voluntarily by applicants to plan for areas of avoidance and minimization and to plan reconnecting wildlife habitat. Audubon recommends citing Florida Important Bird Areas as reference http://web4.audubon.org/bird/iba/gulfIBAslist.html#FL.

Audubon notes that the Draft AEIS reports that most xeric scrub and high quality habitats are currently avoided. We support continuing this approach. There is substantial evidence of protection and enhancement for upland species including the Florida Scrub-jay in current practices. Audubon urges the inclusion in the final AEIS of additional strategies to save this species from extinction.

The draft omits reference to the use of 25% of the phosphate severance taxes to support the state Conservation and Recreation Lands Trust Fund. These funds, appropriated by the Legislature, should be targeted to help remedy offsite impacts and acquisition of habitat for protected species. The percentage of funds collected and even the rate could

be increased to provide for additional land conservation. In general Audubon recommends that state and federal agencies work with the phosphate mining companies to permanently conserve from development as much land as possible.

The draft incorrectly claims that ad valorem taxes collected by the Southwest Florida Water Management District help support land conservation. Such support comes from State funds. In reality, the District's funds from ad valorem and state sources have been reduced to the point that that District is not a reliable source of funds. The final AEIS could emphasize the importance of restoring these funds as a part of a long term strategy.

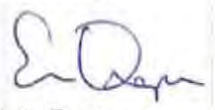
As noted above, Audubon is especially concerned about the impact of development related to population growth in the CFPD area. In other ecologically valuable areas such as Lee and Collier Counties, sprawl has chewed up enormous parts of the landscape and caused such widespread lowering of the groundwater table as to dry out most short hydro-period wetlands. Flood-control related to growth in this area has rendered receiving estuarine waters to a near lifeless state. This has been induced in part by federal infrastructure such as Interstate 75 and a new international airport. The final AEIS could take into consideration the relative harm of alternative land uses to phosphate mining such as large scale development rather than treat mining as an isolated impact to the environment.

**Wildlife Impacts:** The draft makes specific note of listed avian species and cites Dr. Herb Kale's study of bird species found near mined sites. Audubon recommends that the AEIS include lists of all avian species identified in the area and that these species lists be used in consideration of permitting, mitigation, and reclamation decisions.

**Potential effect of climate change on rainfall and seawater intrusion related to sea level rise:** The final AEIS should assess worst case scenarios in which climate change induced severe droughts and sea level rise may cause saltwater intrusion to amplify the effects of water use and diversion related to phosphate mining. Then such scenarios could be dealt with through drafting permits that call for periodic review of impacts and background conditions.

With the goal of minimizing harmful impacts of phosphate mining in the context of other land uses, Audubon requests consideration of our recommendations.

Sincerely,



Eric Draper
Executive Director

Submission number 374

TAMPA PORT AUTHORITY

RECEIVED
JUL 30 2012
Tampa Regulatory Office

July 26, 2012

Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Dear Mr. Fellows:

The Tampa Port Authority supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. The Port of Tampa (Port) has been a gateway partner in developing phosphate's place as a major regional economic engine, and approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS.

The Port is the region's largest economic contributor, generating over 96,000 direct, indirect, induced and other related jobs and an annual economic impact of almost $8 billion, according to a 2006 study conducted by a highly-respected Pennsylvania-based consulting firm on behalf of the Tampa Port Authority. The phosphate and fertilizer industry, a cornerstone of the Port since the late 1800s, creates over 67,000 of the jobs generated by the Port and is responsible for $5.8 billion of the total economic value generated by the Port.

As the director of the Port for the past seven years, I recognize the important role phosphate mining plays as a job creator and economic engine for Central Florida. Last year, the phosphate and fertilizer industry accounted for more than 12 million tons, or more than 35% percent of the almost 34.25 million tons of cargo moving through the Port in 2011. Without the approval of the pending permit applications, the Port of Tampa, and the regional industries that are supported by it, will suffer detrimentally. At a critical and challenging moment for our state's economy, the potential for loss of significant cargo and jobs is an impact that the Port and Florida's phosphate region cannot afford.

On behalf of our Port and the communities served by it, I urge your support of the four pending permit applications and look forward to the finalization of the AEIS which we hope will continue to reflect the far-reaching economic connection between the proposed mines and the industries which operate to support them. Thanks for your consideration.

Sincerely,

Richard A. Wainio
Director and CEO
Tampa Port Authority

1101 Channelside Drive • Tampa, Florida 33602-3612 • Phone: 813.905.7678 • 800.741.2297 • Fax: 813.905.5109
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Submission number 375

# Florida Department of Agriculture and Consumer Services

## Commissioner Adam H. Putnam

The Capitol



July 27, 2012

Mr. John Fellows, Project Manager
Army Corps of Engineers
Draft AEIS Comments
USACE—Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

Dear Mr. Fellows:

The Florida Department of Agriculture and Consumer Services (FDACS) is responsible for maintaining the continued strength of Florida's agricultural industry. The agriculture industry is the strongest pillar of Florida's economy, generating more than $100 billion in annual economic benefits, employing nearly one million people and producing nearly 300 commodities that are shipped globally helping to maintain the nation's favorable agricultural trade balances.

It's no secret that nearly all agriculture, whether row crops, nursery plants or animal husbandry, depends on a producer's ability to grow food and fiber. Crop nutrients, including phosphate, are an essential ingredient to the success of Florida's agriculture industry.

Florida is blessed with abundant phosphate resources that serve not only our farmers, but farmers around the globe as they generate the world's food supply. This resource is vital to Florida, the United States and the global community. As we continue to tap our state's phosphate reserves, mining must be conducted responsibly. Regulatory agencies play an important role, on behalf of the public, to ensure that impacts to our vital ground and surface water resources are minimized during the mining process.

The U.S. Army Corps of Engineers, in cooperation with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection, recently released a draft Areawide Environmental Impact Statement (AEIS), evaluating the environmental impacts of future phosphate mining in Florida. FDACS commends the agencies for its objective evaluation of this important issue.

As the agencies review comments submitted and work to finalize the AEIS, sound science must prevail over political pressure. Any changes made to the findings or the conclusions of the study must be rooted in sound science, based on proven and relevant scientific studies offered through the comment process.

The nation's agriculture industry depends on domestic sources of phosphate from Florida and, by extension, so does the nation's food supply. I encourage you to complete the environmental assessment as expeditiously and objectively as possible.

Thank you for the important work you are doing on this issue.

Sincerely,

Adam H. Putnam
Commissioner of Agriculture

Submission Tracking

| | |
|---|---|
| **Submission Number:** | 000000376 |
| **Received:** | 07/31/2012 04:41:26 PM |
| **Organization:** | Polk County BoCC, Amee Bailey |
| **Commenter Type:** | County Government |
| **Classification:** | Non-substantive |
| **Category:** | Unspecified |
| **Submitted As:** | CW Web Form |
| **Form Letter Category:** | |
| **Form Letter Master:** | |

**Remarks:**

Chapter 4 - Environmental Consequences
<([#1 [49]In recent years the phosphate industry's impact on the Polk County economy has been in decline and is anticipated to continue to decline as phosphate mining moves south into Hardee and DeSoto Counties. Although some chemical manufacturing plants will continue operation in Polk County, the County recognizes that this area is transitioning . Significant planning is needed to support the transition, therefore, the County began the Bone Valley Selected Area Study (SAS) for Polk County.

The Existing Conditions Analysis provides a preliminary overview or "snapshot" of the study area. This analysis provides a better understanding of all facets of the study area and serves as the foundation for developing a vision for the study area. During this phase of the SAS, County planning staff analyzes the history, economy, environmental features, infrastructure, and land uses as they currently exist in the study area. (This document is attached.)

The priority for 2012 was completing the second phase of a Selected Area Study, which is visioning. A vision gives direction and assists the County and the community in understanding what will be accomplished through this study process.
During this phase, the Focus Group developed vision components, which focused on: Community Development, Industry Emphasis, and Creating Conservation Cores and Corridors. These components were combined with the concepts identified in the Guiding Principles to create the initial vision plan and focus for implementation. The ideas were then presented to the public during several workshops to solicit comments. (This document is attached.)

The final stage of the SAS process is implementation. Ultimately, the efforts of the focus group, staff, and the community may result in a Selected Area Plan (SAP). When a SAP is adopted by the Polk County BoCC it may include elements such as goals, objectives, policies, along with Future Land Use changes for the study area.

Polk County will hold public workshops and hearings in 2013 to finalize this study effort. New land use plans and quality growth strategies will guide development in southwest portion of Polk County for years to come.

You can find additional information in the document along with the referenced data sources. Please visit the County's website on the web at www.polk-county.net/projects and then select the link for the Bone Valley Selected Area Study. There you can link to the Existing Conditions Analysis document, the virtual tour, Visioning Brochure, and other study materials.
#1])>

| | |
|---|---|
| **Primary Commenter:** | |
| **Commenter ID:** | 52626 |
| **Hide Submitter:** | |
| **Commenter Type:** | County Government |
| **Name Prefix:** | |
| **First Name:** | Amee |
| **Last Name:** | Bailey |
| **Name Suffix:** | |
| **Title:** | Senior Planner |
| **Organization:** | Polk County BoCC |
| **Division:** | Not Applicable |
| **Address Line 1:** | 330 West Church Street |
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| **State/Province:** | Florida |
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| **Email:** | ameebailey@polk-county.net |
| **Number of Additional Commenters:** | 0 |

Submission number 376 (Attachments Available)

Submission number 377

July 26, 2012



Department of the Army
Jacksonville District Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610

Re: Permit Application No. SAJ-2011-10968(IP-MEP)

To Whom It May Concern:

Thank you for allowing for public comment on the Areawide Environmental Impact Statement pertaining to the proposed phosphate mining sites in the Central Florida Phosphate District.

My husband and I were residents of Sarasota County for more than thirty years and now reside in Desoto County. We are particularly concerned about the proposed Desoto mine.

Every year scientists are learning more and more about the fragility of the environment, specifically the delicate balance between the natural resources, such as water, and the flora and fauna sustained by these resources. The wetland areas of Florida are particularly susceptible to environmental impact. After learning about the phosphate mining process, we have grave concerns about the profound effects that would result from the opening of a mine in this area of Florida.

My husband is an irrigation contractor and has been in the business for 30 years. He has witnessed the stresses on our ground water systems over that time. Watering banns have tightened continuously, never relaxed. We have learned from our neighbor who owns a well-drilling business about the resources that are, and are not, available. If a shift in the groundwater (resulting from the mining process) causes salt water intrusion in the local coastal counties, my husband could potentially lose his business on top of the catastrophe it would be for people both locally and in surrounding areas that rely on groundwater for drinking water.

I understand the mining process of "beneficiation" requires the use of huge amounts of water. Although the mine company proposes to pipe water in from one of its older mines in order to lessen the impact of the water requirements, what if their idea doesn't work or doesn't work as expected? Our groundwater will be the only solution. Even excluding that possibility, as the mining operation digs through the substrata of the ground, the structure of the aquifer system is destroyed. Ground water from different levels in the system will be mixing together and will be diverted from its normal level in the strata. Not only will this disturb the natural circulation of ground water and the natural content of minerals in various levels of the aquifer, but it will also cause shifts of other tributaries far away from the proposed sites that could have serious consequences, impacting people farther away than anyone imagined.

Another concern is the impact on the natural beauty and endangered species that live on this proposed site. From my studies of ecology and population biology, the huge impact of a mining operation would have a devastating effect on the flora and fauna of this area. On our family's

five-acre property, I have seen: rabbits, raccoons, opossums, deer, armadillos, wild turkeys, a large bobcat, box and gopher tortoises, toads and frogs, various snakes (including indigo), pileated woodpeckers, red-tailed hawks, kestrels and merlins, and many other avain species. I can't imagine there would be no impact on these creatures as a result of mining operations because of our proximity to the proposed Desoto mine. Although the mining operations claim to restore the land after mining, the organic species cannot "wait" for this eventuality and we could lose valuable niches in our ecological picture. The formation of strata of earth and aquifer systems, subsoil and topsoil that took hundreds of years to form cannot be recreated by cosmetic "reclamation".

The public health problems stemming from mining operations would not only include groundwater quality and quantity, but also the radioactive phosphogypsum that becomes exposed as the phosphate mineral is extracted from the earth. Since our family lives within ten miles of the proposed mining site, we are concerned about our own well, our only water source, and about airborne particles, exposing our children to radiation. Radiation exposure would have an impact on many local families, but also have far-reaching effects because of the many food-producing groves, farms, and ranches in the area.

In light of the devastating effects of phosphate mining to the environment that sustains human and wildlife in the Central Florida Phosphate District, we implore you not to approve the commencement of mining operations in these areas. The risks are too high to account for the benefits. There are other places in our country and in the world from which phosphate can be mined without destroying the unique ecosystems that we call the wetlands of Florida.

Sincerely,

Dr. Margaret M. Niklas

Dr. Margaret M. Niklas, B.S. Biology, DVM
7550 SW Labrador Drive
Arcadia, FL 34269

Cc: Paige Kreegel, FL House of Representatives

# Comments on the Draft Areawide Environmental Impact Statement for Phosphate Mining in the Central Florida Phosphate District

**PREPARED BY: Brian Winchester - Winchester Environmental Associates, Inc.**

**PREPARED FOR: Manatee-Sarasota Group, Sierra Club DATE: July 27, 2012**

## INTRODUCTION

On June 1, 2012, the US Army Corps of Engineers (USACE) Jacksonville District published a Notice of Availability in the Federal Register of the Areawide Environmental Impact Statement for Phosphate Mining in the Central Florida Phosphate District (AEIS). Public comments on the AEIS may be submitted to USACE up until July 31 2012. The USACE also posted partial information on its website with regard to Section 404 permit applications for four new phosphate mines.

In response to these notices, the Manatee-Sarasota Group of the Sierra Club requested Winchester Environmental Associates, Inc. (WEA) to conduct an independent technical review of the AEIS with regard to its wetland ecological components, and to submit these independent comments to USACE on Sierra Club's behalf. WEA's comments are based solely on its own review and are separate and independent from any other comments submitted by Sierra Club, its groups, or members. It should be noted that due to the volume of material in the AEIS and the four ERP/Section 404 permit applications, the short review period afforded, and the unavailability of critical project documents (such as three of the proposed mine reclamation plans), WEA's review comments are not final or complete; but simply present the major concerns discovered thus far in WEA's review of the AEIS and permit applications.

This technical review was prepared by Brian H. Winchester, president and technical director of Winchester Environmental Associates, Inc., a firm which was established in 1987. Mr. Winchester has 39 years of experience as a professional Florida ecologist, specializing in wetlands ecology with emphases on wetland creation and restoration, wetland response to hydrologic change, and wetland reclamation of formerly mined lands, with additional expertise in plant ecology, wildlife biology, and protected/listed species. Mr. Winchester has performed extensive field studies evaluating the type, nature, and function of wetlands created on phosphate mining sites and comparing them to natural wetland systems. Mr. Winchester has been accepted as an expert in legal proceedings in the area of wetland functions and values, wetland mitigation

and restoration (in the phosphate mining context as well as other contexts), and wetland hydroecology.

## DRAFT AEIS REVIEW COMMENTS

### WEA COMMENT 1: The USACE is responsible to ensure that the contents of the AEIS are adequate, technically accurate, and free of bias.

With regard to EISs prepared by third-party contractors, USACE Regulatory Guidance Letter No 05-08 states that:

> "The district is responsible for ensuring that the information provided by the contractor is consistent with Corps statutory requirements to take a hard, objective look at the public interest and environmental factors. **The district will also take full responsibility for the scope and contents of the EIS**, directing the contractor as necessary to make certain that its work acceptable. **The district will regularly participate in the preparation of the document and independently evaluate the information to ensure that it is technically adequate and not biased. The district has the final determination whether the data provided is adequate and accurate [emphasis added].**"

In a memorandum dated 7 December 1997 and entitled "Guidance on Environmental Impact Statement Preparation" similar instructions were given to the districts:

> "The Corps is responsible for review and acceptance of required information, data, or drafts and **must be especially vigilant in identifying and eliminating any bias that could exist in a draft National Environmental Policy Act document prepared by a contractor** selected and supervised by the applicant. The District Engineer (Corps Regulatory Branch) has the final determination for EISs prepared by the applicant and his/her consultant of whether the data provided is adequate and accurate. **The Corps will carefully review the applicant's drafts to ensure they are technically adequate and not biased [emphasis added].**"

With regard to the AEIS, the relevance of these guidance documents from higher up the USACE chain-of-command is as follows:

1. The USACE has full and final responsibility for the scope, contents, and findings of the AEIS, and that responsibility is neither shared with nor can be passed off to the AEIS preparer (CH2M HILL) or to current project applicants (Mosaic and CF Industries).

2. The USACE is specifically charged to be "vigilant in identifying and eliminating any bias." Accordingly, the tone and content of the AEIS should be neutral and even-handed,

presenting and discussing the facts and issues objectively without being inherently pro-mining or anti-mining. This means that *all* known significant environmental problems and impacts associated with the mining/reclamation process should be identified, critically evaluated, and discussed in the AEIS. It is not acceptable to omit the discussion of known major issues or to trivialize their significance by not fully presenting the relevant facts. It goes without saying that where the phosphate industry has developed successful approaches to addressing environmental issues, and where these approaches have been tested and shown to be reliable, such successes should also be fully presented and discussed in the AEIS.

3. The USACE is responsible to ensure that the content of the AEIS is adequate. It is not acceptable to issue a draft AEIS when information critical to the thorough evaluation of environmental impacts still has not been provided to the USACE. In such cases the USACE should issue requests for additional information to the applicants and then postpone the release of the draft AEIS until such information has been received and reviewed. To knowingly issue an AEIS that is based on significantly incomplete and inadequate information subverts the NEPA process even while it gives the public impression that NEPA is being complied with.

4. The USACE is responsible to ensure that the technical content of the AEIS is accurate. It is understood that the USACE cannot verify the accuracy of every data element provided by the applicants. That being said, the USACE (and their third-party contractor) are nevertheless obligated to fully apply their technical knowledge, past experience, and professional judgment to the data and assertions being supplied by the applicants. It is inexcusable to present data and information as if they are factual and reliable when the USACE and/or AEIS authors are fully aware of contraindications.

**Based upon my review of the draft AEIS to-date, it is my professional opinion that the draft AEIS as issued is biased, inaccurate, and incomplete.** Some of my reasons for this conclusion are explained in the comments to follow. Furthermore, it is my opinion that **the AEIS should not be finalized, nor should agency action be taken on the four mining ERP/Section 404 permit applications, until the deficiencies of the draft AEIS have been properly addressed.**

**WEA COMMENT 2: The USACE has elected not to identify or disclose a number of highly relevant technical documents that were submitted to USACE specifically for consideration in the AEIS review.**

To be able to perform an independent review of the AEIS and provide meaningful comments, the public must have access to the same major documents and data sources that the USACE and the AEIS authors had access to. At a minimum, this should include documents that were formally

submitted to the USACE for their consideration. While it is understood that this represents an enormous amount of material that most reviewers will not take the time to go through, the reviewer should nevertheless be able to identify the presence of and access relevant data and documents without resorting to unusual measures. This is particularly true for studies and analyses commissioned by either the USACE or the mining companies in anticipation of the AEIS being developed. Under no circumstances should the public be hindered from learning of the existence of relevant data and documents due to non-disclosure by the USACE. To be effective, the public comment process must be free of all forms of information suppression.

**WEA COMMENT 3: Chapter 6 of AEIS, entitled "Compliance with Environmental Requirements," should include a thorough discussion of the extent to which the mining alternatives comply with the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332).**

**The AEIS remains an incomplete document until such time as the issue of wetland mitigation/reclamation is thoroughly reviewed for phosphate mining in the CFPD in general and for each of the four currently proposed mines.** Without such an assessment, there is no way to evaluate whether the proposed wetland impacts are likely to be offset by proposed wetland reclamation. While less rigorous state wetland reclamation requirements may be legally allowable for consideration by FDEP/BMR, state standards have no bearing on USACE's assessment of wetland reclamation, nor are they relevant to this AEIS. Federal wetlands mitigation standards and requirements are specified in detail in the CMR, and USACE must evaluate all new phosphate mines and/or mine extensions (if they require new permits or permit modifications) under the guidance and requirements of the CMR.

**WEA COMMENT 4: The AEIS review fails to address temporal loss considerations associated with wetland reclamation, and fails to challenge this area of non-compliance with the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332).**

Section 332.3(f)(2) of the CMR states:

> "The district engineer must require a mitigation ratio greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site. The rationale for the required

replacement ratio must be documented in the administrative record for the permit action [emphasis added]."

Section 332.2 of the CMR defines *temporal loss* as "the time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site." Temporal loss reflects the practical recognition that reclaimed/created wetlands do not immediately provide full compensation for the wetland functions they are intended to replace. Even if one assumed that the wetland reclamation proposed in the four ERP/Section 404 permit applications would eventually be fully successful and achieve all functional goals (which is an improper assumption based on the current state of many reclamation wetlands), the reclaimed wetlands would still take time to grow, reach maturity, and provide the ecological benefits they are intended to replace. **In consideration of this, when it is known that temporal losses in wetland function will occur, the CMR explicitly states that USACE *must require* a greater mitigation ratio than one-to-one.**

The AEIS is negligent in that it contains no proper discussion of the temporal loss impacts that occur to wetlands as a result of phosphate mining. The AEIS also misleadingly gives the impression that temporal loss is considered in the wetland functional evaluations. For example, Section 4.12.3.2 of the AEIS states that "using the Wetland Rapid Assessment Procedure ("WRAP") provides the opportunity to incorporate temporal impacts into calculations of the necessary wetland and stream mitigation." But in fact, at least one of the mining companies *does not* incorporate temporal loss considerations in their WRAP or UMAM analyses simply because they assert they are exempt from such requirements. In the case of South Pasture Mine Extension, CF Industries boldly states in Section 8.2.2 of Attachment C-1 of their ERP Application that "as mining projects are exempt from time lag considerations, all mitigation wetlands were assigned a time lag of 1 (no lag)."

Mosaic's position on temporal loss cannot as yet be determined because they elected to withhold their wetland reclamation plans from the USACE and the AEIS review team. Furthermore, Mosaic also failed to produce the wetland reclamation plans as part of their joint state-federal ERP permit application, essentially leaving the USACE and the AEIS preparers unable to formulate informed opinions on whether the proposed mines will or will not comply with the mitigation requirements of the CMR. It seems likely that Mosaic will join CF Industries in asserting that they are exempt from having to comply with federal regulations requiring that they mitigate for wetland temporal loss.

**WEA COMMENT 5: The AEIS review fails to address applicants' noncompliance with the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332) requirement for in-kind wetland reclamation.**

Section 332.3(e) of the CMR states:

> "...in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to compensate for the functions and services lost at the impact site...

and

> "For difficult-to-replace resources (e.g., bogs, fens, springs, streams, Atlantic white cedar swamps) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts.

Section 332.2 of the CMR defines *in-kind* as "a resource of a similar structural and functional type to the impacted resource."

On the state level, the phosphate mining industry has historically been granted very permissive requirements with regard to wetland mitigation. The state standards do not require in-kind mitigation (also known as type-for-type mitigation) like the CMR, requiring only that impacts to forested wetlands be compensated for with forested wetland mitigation, and similarly non-forested wetland impacts be compensated for by non-forested wetland mitigation. Although some proponents of these lax standards claim they are type-for-type, this is clearly not the case, as they allow the replacement of diverse hardwood swamps with cypress monocultures, seepage-maintained bay swamps with long-hydroperiod willow swamps, and short-hydroperiod wet prairies with deep, permanently flooded pickerelweed marshes (all of which have actually happened in the past mine reclamation efforts and been considered acceptable wetland reclamation).

The CMR sets a higher standard, intending that each wetland type be replaced through mitigation involving the same kind of wetland. **Under the CMR, bay swamp/forested seepage wetlands cannot be acceptably mitigated in any way other than the preservation, restoration, enhancement, and/or creation of bay swamp/ forested seepage wetlands.** The CMR further instructs that for "difficult-to-replace resources" that have an inherently high risk of not being successfully created, it is preferable to mitigate via "in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts." Clearly, CMR does envision adequate mitigation for a mining project to simply consist of the site having larger "forested wetland" acreages than it had before being mined. Within the CFPD, difficult-to-replace wetland resources would most certainly include bay swamps/forested seepage wetlands and wet prairies.

**The AEIS review does not demonstrate an understanding that mining impacts to wetlands of the CFPD must be evaluated in the context of *each kind* of wetland involved. Accordingly, a proper evaluation by USACE of impacts to each wetland type should be added to the AEIS.** This evaluation should include an objective assessment of not only the net change of wetland acreage after project completion, but also the extent to which the structure and

function of the mitigation wetlands successfully replace the structure and function of the impacted wetlands. To be compliant with CMR, this evaluation must be done for each wetland type. Inasmuch as Mosaic has not yet submitted the specific reclamation plans necessary to do these evaluations, the AEIS should not be finalized, nor should agency action be taken on the ERP/Section 404 permit applications, until such evaluations have been completed.

It should be noted that there are other issues related to in-kind wetland mitigation, particularly with regard to the mining industries' claims that they can successfully reclaim certain problematic wetland types. These are discussed later in WEA's Comments.

**WEA COMMENT 6: The AEIS fails to discuss other ways in which the proposed mines are either non-compliant with or non-responsive to the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332).**

1. The AEIS acknowledges (p. 31) that the four currently proposed mines will impact over 10,000 acres of wetlands and 260,000 feet of streams. The AEIS acknowledges (p.5-1) the "no net loss" objective of the Federal Wetland Compensatory Mitigation Rule (CMR), stating that the regulations in the CMR "are designed to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function." So the AEIS recognizes in principle that for wetland reclamation/mitigation to be compliant with the CMR, it must achieve no net loss of both wetland area/stream length *and wetland/stream function*. Increasing the post-mining acreage of wetlands and post-mining lengths of streams relative to that prior to mining are not sufficient mitigation by themselves.

2. After its early acknowledgement of the importance of no net loss of wetland/stream functions, the AEIS then fails to evaluate the proposed mining impacts to wetlands and their subsequent mitigation in the context of the CMR. The AEIS contains scattered references to provisions of the CMR, but for the most part the AEIS analysis defaults to the much less rigorous state mitigation standards, stating that the wetland impacts will be addressed through the state reclamation requirements of acre for acre replacement "plus additional habitat enhancements or creation requirements," which have not yet been specified for any of the proposed mines. The AEIS fails both to point out and then to discuss that the applicable reclamation standards the USACE must adhere to are those of the Federal Wetland Compensatory Mitigation Rule (33 CFR §332.5), not the state wetland reclamation standards. (It should also be noted that in Florida, 1:1 mitigation is allowed only for mining, all other prospective wetland impacts must comply with more rigorous mitigation standards.) By defaulting to the state standards, the AEIS greatly lowers the bar for what wetland mitigation is required. By omitting any discussion of additional mitigation measures specific to the four mines, the AEIS has legitimized a

process in which the net effect of mining on wetland acreages and functions will remain undisclosed and unreviewed until after the EIS has been finalized. **To allow an agency action to proceed without proper prior evaluation of its environmental impacts is contrary to the whole purpose of the NEPA evaluation process. At the least, the AEIS should admit that until detailed wetland reclamation plans are presented and reviewed for each of the proposed mines, it is not possible to independently determine if the mines will be in compliance with the CMR.** It goes without saying that an applicant's assertion that they will comply with CMR requirements without disclosing specifically how they intend to do so is not enough.

3. **The demonstrated history of the phosphate industry with regard to restoring the type, nature, and function of wetlands systems is one of consistent failure.** I make that statement not on the basis of subjective opinion, but on the basis of numerous carefully planned and executed quantitative site studies comparing the ecological features of reclaimed and natural wetlands within the CFPD. Those studies were completed in 2003-2004. At that time, although there were many examples of reclaimed wet, vegetated areas that were technically wetlands, most bore little resemblance to natural Florida wetlands. While the industry had demonstrated the ability to reclaim deep pickerelweed marshes, cypress swamps, and willow stands, they struggled to produce many of the other wetland systems commonly found in the CFPD. While it is possible that there have been some improvements in how wetland reclamation is now implemented, I know of no time-tested evidence demonstrating that such improved methodologies are successful and are being uniformly applied by the industry.

**WEA COMMENT 7: The AEIS provides no specific, objective evidence that wetland reclamation as currently practiced by the phosphate industry successfully re-creates all of the wetland types impacted by mining.**

The AEIS (p. 5-5) states that "the determination of mitigation success is made by regulatory agencies when a positive trend is evident based on regulatory success criteria, and not when the wetland reaches a stable condition." Over the last two decades there have been thousands of wetland acres released by agencies as being successfully reclaimed that in fact never demonstrated the type and function characteristics comparable to the native wetland systems they were intended to replace. Whether the issue was one of improperly designed success criteria, lax enforcement of restoration goals, or expediency, the fact remains that numerous failed wetland reclamation sites were released because in someone's professional judgment they were showing a "positive trend." **The AEIS fails to properly recognize how pervasive the past wetland reclamation failures have been, and does not bring an appropriately guarded skepticism (based on past experience) to the wetland reclamation process today. Nowhere does the AEIS state how or why one can believe that wetland reclamation has improved enough to**

**justify the currently proposed impacts. Nowhere does the AEIS provide site-specific evidence of new and improved wetland reclamation that has been independently reviewed by either the AEIS preparers or professional scientists not in the employ of the phosphate industry.**

The AEIS presents a brief discussion of wetland reclamation techniques and methodologies, including using a watershed-based approach, stockpiling and use of wetland topsoils, planting of nursery-grown stock, and use of modeling to predict target hydrologic conditions. But this AEIS discussion is simply a list of the techniques and methodologies that most wetland scientists working in central Florida are already aware of. The AEIS does not objectively discuss the extent to which these methods are reliably successful, how and why these methods may fail, whether these reclaimed wetlands are fully compliant with the more stringent requirements of the CMR, the consistency with which these reclamation techniques are used by the industry, and whether the use of these best reclamation methodologies is required or only discretionary for the applicants. For the AEIS discussion of mitigation to be relevant to the NEPA evaluation of potential net wetland impacts, it must concentrate on assessing the functional effectiveness of wetland reclamation efforts, rather than listing the methods used to achieve wetland reclamation.

For example, the AEIS (p. 5-7) states that the application of salvaged wetland topsoils into created wetlands is "standard practice." But the AEIS preparers do not cite their support for making this statement. Is it because they have observed the use of topsoiling in all or many of the current wetland reclamation efforts they visited (if they indeed visited any....which would be nice to know)? Is it because they have examined numerous wetland reclamation plans and no that topsoiling has been consistently specified? Or is it simply because the applicants told the AEIS preparers that topsoiling is standard practice? This kind of rigorous inquiry is the only way the AEIS review can differentiate between what wetland reclamation is truly likely to achieve versus what the applicants claim it will achieve.

**In summary, the AEIS should not only identify the best, state-of-the-science methodologies applicable to wetland reclamation, but it should assess whether they are actually being used and whether they are actually achieving the results required by the CMR.**

## WEA COMMENT 8: The AEIS falsely claims that CF Industries' wetland mitigation plan for the South Pasture Extension Mine was not available for review

Section 5.6 of the AEIS states:

> "At the time this AEIS was prepared, the Applicants for the four currently proposed mines (Desoto, Ona, Wingate East, and South Pasture Extension) had yet to submit federal Section 404 wetland mitigation plans for the mines to USACE for review and approval."

While it may be true that CF did not submit an official wetland mitigation plan for the South Pasture Extension mine to USACE, CF *did* submit a reclamation plan detailing wetland mitigation to other state agencies, and this *was* available for USACE review. This plan, entitled "Reclamation Plan for the CF Industries, Inc, Hardee County South Pasture Extension" was prepared by ENTRIX on or about March 2010. Obviously CF's federal wetland mitigation plan would closely mirror the one they submitted to state agencies, even if its format differed.

Roughly half of the CF reclamation plan addresses wetland mitigation issues, and the plan provides both narrative descriptions of wetland mitigation approaches as well maps/tabular information related to wetland mitigation. More specifically, it provides wetland-specific information including reclamation acreages, reclaimed wetland locations, topsoiling specifications, planting species, planting densities, monitoring requirements, and success criteria. Even though this submittal was entitled a "reclamation plan" rather than a "wetland mitigation plan," it contained all the information needed for consideration in the AEIS review. The AEIS was remiss in not thoroughly reviewing the CF wetland reclamation plan, particularly considering that Mosaic had not yet submitted its mitigation/reclamation plans for the other three mines.

**WEA COMMENT 9: The wetland mitigation approach specified in the South Pasture Extension Mine reclamation plan will not ensure that wetland mitigation meets the requirements of the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332).**

A complete and detailed review of the South Pasture Extension (SPE) wetland mitigation/reclamation plan is beyond WEA's present scope. That being said, the following preliminary comments are offered:

- While this recent reclamation plan includes some of the newer wetland reclamation concepts and methodologies, it is nonetheless flawed in that it does not require full, in-kind mitigation of wetlands and their functions. The plan specifications are worded such that they contain numerous opt-outs and alternatives.

- The SPE wetland reclamation plan allows for the use of salvaged or stockpiled muck on reclamation wetlands **but does not require it**. CF states that "if timing between clearing of donor sites and completion of the restoration does not allow for direct transfer, muck ***may*** be stockpiled.... in the event that insufficient wetland muck or topsoil is available, CF will coordinate the use of other appropriate materials with FDEP... Forested wetlands will be created on sand tailings and then graded and capped with suitable wetland topsoil, ***if available*** [emphasis added]."

- While the reclamation approach is described for each of the various wetland types (including bay swamps), and appropriate species for the wetland types are included in the

overall wetland planting list, there is no requirement that a given wetland type be planted with the species that define that type, nor is fidelity to the target wetland type required for the wetland to meet success criteria. If vegetation growth and survival are adequate, then as long as the dominant species are the same or "functionally the same" as that of the "target habitat," the reclaimed wetland can be considered successful.

- The SPE reclamation plan does not specify what the reclamation acreages of specific wetland types are supposed to be (other than forested versus non-forested wetlands).

**Consequently, the SPE reclamation plan, as written in 2010, will not ensure that in-kind wetland mitigation occurs in compliance with the CMR.**

**WEA COMMENT 10: The AEIS provides no evaluation or meaningful discussion of the wetland reclamation plans of Mosaic's three proposed mines .**

As already noted, the specific wetland reclamation plans for Mosaic's proposed three new mines were not available for the AEIS team's review. These wetland reclamation plans are arguably amongst the most important documents needed to objectively and accurately review the net environmental impacts of Mosaic's three mines in particular and the cumulative impact of all four mines together. It is simply inadequate to review and discuss "some general information on the wetland mitigation estimated to be conducted at the four currently proposed mines sites based on preliminary information contained in the Applicants' Section 404 permit applications" as the AEIS states on p. 5-17. It is in the specifics of the wetland reclamation plans that a reviewer would determine: 1) whether the Mosaic is truly going to use state-of-the-art science and technology in their wetland reclamation, 2) whether the application of best reclamation practices is strictly required or optional for Mosaic to apply when they consider it "practicable," 3) whether the wetland reclamation plans truly meet the requirements of the Federal Compensatory Mitigation Rule or only the lesser state standards, 4) whether wetland reclamation success criteria are based on objective, scientific measures instead of flexible, subjective opinions, and 5) whether the underlying assumptions upon which future WRAP/UMAM scores are projected for wetlands yet to be reclaimed are valid, reasonable, and based on actual, present reclamation success rates. The publication of the draft AEIS in advance of knowing the specifics of Mosaic's proposed wetland reclamation plans for each of the three mines is premature and circumvents the NEPA process.

In Section 5.6, the AEIS stated that the wetland mitigation plans for the proposed mines had not been submitted to USACE "because USACE verifications of the Applicants' jurisdictional wetland determinations (delineations of federal jurisdictional wetlands/waters) were still ongoing.... and subject to change pending USACE approval of the jurisdictional determinations; consequently, the associated mitigation plans were still under development."

This is a transparently weak justification for the applicants not providing their wetland reclamation/mitigation plans. There is no reason the applicants could not have presented their most up-to-date versions of their mitigation plans with the caveat that some adjustments in wetland acreages might still occur. Slight adjustments to final wetland reclamation acreages should have no material effect on the mine-specific reclamation methodologies and overall reclamation plans the applicants intend to use – those still could have been described in detail by the applicants. Furthermore, both applicants provided precise acreages of USACE-jurisdictional wetlands to be impacted for their mines throughout the AEIS (e.g. Tables ES-2, 2-3, 4-6, 5-1; Sections 4.3.2.1 through 4.3.2.4), and only once mentioned in a footnote that these acreages were still subject to USACE verification.

**It is inappropriate for USACE to allow a ERP/Section 404 permits to proceed to public comment when something as essential as the wetland reclamation plans have not been considered in USACE's review. One would expect the USACE to request additional information and keep the applications in incomplete status until the applicants provided the necessary information. Additionally, one would expect USACE to not release the draft AEIS until such information had been provided.**

**WEA COMMENT 11: The AEIS misrepresents the acreage loss of bay swamp/seepage wetlands in foreseeable future and alternative mine areas (AEIS Tables ES-3; pp. 16-17).**

Table ES-3/ES-4 of the AEIS indicate only two acres of impacts to bay swamps in the foreseeable future mines (Alternatives 6 through 8) or other alternative mine areas (Alternatives 9 through 25). This is not only incorrect, it is a misrepresentation that the USACE and the AEIS preparers would have *known* to be incorrect because they would have known that at least some of these tracts would undoubtedly contain bay swamp communities in headwater positions or along upslope seepage areas bordering stream/riverine systems. If the USACE and the AEIS preparers did not have actual bay swamp acreages available, then they should have either requested them or indicated the bay swamp acreages were "not available" rather than giving the impression they were absent.

Furthermore, it is strange that a summary breakdown of bay swamp, forested wetlands, and herbaceous wetlands is provided in the AEIS executive summary for foreseeable future and alternative mines, but not in Table ES-2 for the four mines currently proposed (where specific wetland type acreages are known). This gives the impression that the AEIS executive summary is trying to divert attention away from the issue of bay swamp impacts. Considering that bay swamps are the forested community that the phosphate companies have the poorest record in successfully reclaiming, and that bay swamps are perhaps the most at-risk forested wetland type when it comes to mining (due to their landscape position), these tables are very misleading.

Tables 4-8, 4-11, and 4-14 repeat the pattern of not reporting the presence of bay swamps. In particular, Table 4-8 reports zero presence of bay swamps on the Ona tract. I have personally spent weeks in the field collecting data on the bay swamps of the Ona tract. In previous mine applications for the Ona mine, IMC/Mosaic openly admitted the presence of bay swamps on the tract. And in administrative hearings related to those earlier mine applications/permits, there was substantial testimony offered on Ona's bay swamps. Furthermore, Table 4-8 also indicates there are no bay swamps in the proposed South Pasture Extension. Yet in Section 4.3.2.4, the AEIS states that "96% of the bay swamp acreage on the property will be preserved in perpetuity." Obviously that statement proves that there was knowledge (at least by the original writer) that bay swamps were not only present on this mine site, but of such ecological importance that their preservation was worth mentioning.

The significance of these contradictions in the AEIS goes well beyond the technical issues related just to bay swamps. The USACE, the AEIS preparers, and the applicants all knew there were bay swamps on the four proposed mines. Information provided by Mosaic and CF Industries in their ERP/Section 404 permit applications reports the following bay swamp acreages for the four mines:

- Desoto Mine – 231.2 acres of bay swamp
- Ona Mine – 126.6 acres of bay swamp
- Wingate East Mine – 22.0 acres of bay swamp
- South Pasture Extension Mine – 29.8 acres of bay swamp

One can only speculate as to why all parties to the AEIS decided to ignore the presence of this sensitive and difficult-to-reclaim wetland type. Regardless of the reasons for the error, one cannot escape the conclusion that **the USACE knowingly allowed incorrect data to be reported in the AEIS. This misrepresentation of bay swamp acreages seriously erodes the credibility of the AEIS as a thorough and impartial evaluation of the impacts potentially associated with phosphate mining in the CFPD.**

**WEA COMMENT 12: AEIS does not adequately discuss the unproven ability of mining companies to successfully reclaim bay swamp/seepage wetlands**

The issue of whether mining companies can successfully reclaim bay swamp wetlands is a very important one, and one that the USACE, the AEIS preparers, and the mining companies are well aware of. In an attempt to bolster their claim that they can restore bay swamps, Mosaic commissioned a report entitled *Characterization of Forested Seepage Swamps on Mosaic Lands in the Bone Valley of West-Central Florida*, authored by Michelle Curtis and Shirley Denton in

2011. Mosaic provided this report to USACE as part of its scoping comments along with the following statement:

> "For example, there have been allegations that natural sites known as "bay wetlands" or "bay swamps"-cannot be replicated through mitigation. In this regard, Mosaic asked Dr. Shirley Denton, of Cardno ENTRIX to evaluate and compare the functions of certain natural and certain reclaimed forested seepage/bay wetlands. Working with other ecologists, she prepared the report titled, Characterization of Forested Seepage Swamps on Mosaic Lands in the Bone Valley of West-Central Florida, a copy of which is enclosed. She compared three natural (undisturbed) features that qualified as "bay wetlands" under a regulatory definition with three post-reclamation features designed to replicate this particular natural system. Taking into account differences in the age of the systems, Dr. Denton concluded that forested seepage wetlands (bay swamps) were developing properly on the reclaimed sites. There is no support for a blanket assertion (or conclusion) that such wetland types cannot be restored or reclaimed."

Obviously Mosaic viewed bay swamps and their reclamation as an important enough issue to commission a special study to bolster their assertion that they really can create this wetland type. Yet the AEIS provides only minimal mention of bay swamp reclamation and nowhere mentions it associated difficulties (which would have been at least an equal part of any unbiased discussion). The AEIS's brief treatment of this topic is found in Section 5.4.1:

> "An example of the use of muck application and plant transplantation is Mosaic's Alderman Creek Bay Swamp Demonstration Project. This project involved the construction of a seepage wetland via muck application and a combination of bay tree transplantation and nursery-grown plantings (Gaines et al., 1999). In addition to the application of muck, an upslope hill was constructed from sand tailings to allow seepage drainage into the wetland as the primary source of hydration. The Hillsborough County Environmental Protection Commission determined in 2005 that this wetland was trending towards success as a bay swamp."

So Mosaic presents the Curtis and Denton (2011) report and the AEIS presents the Gaines et al. (1999) paper as evidence that bay swamps can be successfully reclaimed. If one examines these documents more carefully, it can be seen they really do not support the claims made and are flawed in various respects. Consider the following:

- Bay swamps are defined by state agencies and in the scientific literature as being seepage-supported forested wetlands dominated by one or more of the three bay species – sweetbay (*Magnolia virginiana*), redbay (*Persea palustris*), and loblolly bay (*Gordonia lasianthus*). Quantitative studies done by Monk (1966) demonstrated that the most prevalent subdominant tree in bay swamps was blackgum (*Nyssa sylvatica* var. *biflora*).

Other forested wetlands types may contain bay trees, but they are not considered bay swamps where bay trees are not dominant.

- Gaines et al. (1999) actually examined four bay swamp reclamation sites, though the Alderman Creek site was the only one mentioned in the AEIS. Curtis and Denton (2011) examined three of these same sites over 10 years later. None of the sites discussed in either report adequately demonstrate successful and intentional bay swamp reclamation for the following reasons:

    - AMAX-BF-1: For many years the mining industry cited this reclamation site as a premier example of successful bay swamp reclamation, and because reclamation in the area having was completed in 1979, it was one of the oldest sites. Gaines et al. (1999) reported the site to be dominated by loblolly bay, and stated that "preliminary results indicate that over a period of less than 20 years a bay swamp forested wetland (AMAX-BF-1) can be created in central Florida."

      The problem with this site is that the area where bay swamp vegetation returned was never actually mined. An examination of historic aerial photographs shows that a portion of AMAX-BF-1 was cleared of surface vegetation in anticipation of mining, but then mining was terminated prior to reaching the cleared boundary. This was confirmed by WEA's field studies of the site in 2003-2004, where vegetation features and soil profiles confirmed the exact boundaries between the mined and unmined portions of AMAX-BF-1. WEA's field studies at this site demonstrated that the portions of site that *had* actually been mined were dominated by non-bay species, namely wax myrtle (*Myrica cerifera*), red maple (*Acer rubrum*), and Carolina willow (*Salix caroliniana*).

      The study by Curtis and Denton (2011) omits this site from consideration, presumably because the site is not a valid example of bay swamp restoration. Because the conclusions reached by Gaines et al. (1999) were based upon data collected from a wetland that was simply recovering from having been cleared rather than a reclaimed wetland, they should be totally discounted.

    - Hardee Lakes: This site was examined by both Gaines et al (1999) as well as Curtis and Denton (2011). Final grading of the site reportedly occurred in 1990, followed by multiple planting events between 1991 and 1995. Curtis and Denton (2011) note that "this wetland was officially created in 1990 as a forested hardwood wetland and not as a bay swamp."

      In the most recent data provided by Curtis and Denton (2011), bay species accounted for only 31.7% of the overstory stratum and 32.5% of the basal area at the Hardee Lakes site. For this reason, Curtis and Denton (2011) concluded that "...this wetland, planted to be a hardwood swamp, is a hardwood swamp, but it

does not meet the FLUCFCS 611 definition of a bay swamp." The findings by Curtis and Denton (2011) that the site is not a bay swamp were further confirmed in WEA's field studies of the Hardee Lakes site in 2003-2004.

- South Prong Wetland: Gaines et al. (1999) stated that bay swamp reclamation activities at this site commenced in October 1996, and that the "entire bay swamp project" encompassed 10 acres. They further reported that the site was planted with 7000 bay trees (all three species) and 2500 other wetland tree species. Their field measurements a few years after the plantings showed 71% dominance by bay species.

  WEA randomly-located vegetation transect data from this site in 2003-2004 showed the three dominant tree species at the South Prong site to be sweetbay, wax myrtle, and Carolina willow, with all bay species taken together comprising less than 45%. The most recent data collected by Curtis and Denton (2011) showed that of the three bay species, only sweetbay still had a significant presence on the site and that it accounted for only 41% of all tree species present. Curtis and Denton (2011) described the wetland as "a young hardwood swamp with a variety of hardwood trees growing into the overstory..."

- Alderman Creek Bay Swamp: According to Gaines et al (1999) final contouring of the Alderman Creek Bay Swamp Demonstration Project (ACBS) was completed in 1997. This was followed by the direct transfer from a donor site of muck, 539 whole trees, and 431 stumps that continued up until March 1999. Accordingly, their measurements of the ACBS site should be viewed as the initial post-planting baseline of the site, showing the initial (tree and stump) bay percentage of the site to be 91.6%.

  Roughly ten years later, the measurements by Curtis and Denton (2011) demonstrated that total bay dominance was down to 60.0%, though sweetbay was still the most prevalent species. Therefore, the currently demonstrated trend for the ACBS wetland is one of decreasing bay prevalence and increasing red maple prevalence, so it remains to be seen whether this site will eventually mature to be a bay swamp or a mixed hardwood swamp. A recent photo of the interior of the site (see Figure 1), excerpted from Curtis and Denton (2011), show how young and how vegetationally-underdeveloped much of this site still is. It would be inappropriate at this time to represent it as a successful bay swamp.

- **In summary, two of the three reclaimed wetlands evaluated by Curtis and Denton (2011) failed to meet the definition of a bay swamp (even though they are maintained at least in part by seepage). The remaining (and youngest) wetland was dominated by bays but its overall trend in terms of species**

Figure 1. Photo of the interior of Alderman Creek Bay Swamp
(from Curtis and Denton, 2011)

**composition appears to be away from bay dominance**. Curtis and Denton (2011) summarized their study findings by stating "overall the created wetlands appeared to be developing into forested seepage wetlands." In their summary they also note that "more recent planting of bays in appropriate zones appears to be working to shift new wetlands toward increased abundance of bays." In other words, when you plant more bays their abundance increases. Nowhere in their summary is there a statement that a bay swamp system, dominated by bay species in accordance with the definition of this wetland type, has been successfully reclaimed.

- **It is reasonable to assume that if the phosphate industry had better or additional examples of bay swamp restoration other than those discussed above, they would have been presented. Consequently, it appears that the phosphate industry's entire claim of being able to reclaim bay swamp systems rests on a single 8-acre, 13-year old system that is still in a very early developmental state.**

**WEA COMMENT 13: AEIS does not adequately discuss the unproven ability of mining companies to successfully reclaim wet prairie wetlands**

Amongst the native unforested wetland types, shallow-hydroperiod wet prairies wetlands (FLUCFCS code 643) also pose many reclamation challenges. Most natural wet prairies are shallowly-inundated wetlands on mineral soils that are periodically subject to fire. The issue of whether mining companies can successfully reclaim wet prairie wetlands is not discussed in the AEIS, nor the effects of replacing wet prairies with deeper marsh systems (which has been the norm for most phosphate unforested wetland reclamation).

**WEA COMMENT 14: The AEIS likely under-represents the linear feet of streams affected by mining.**

I have on more than one occasion found intermittent stream systems on lands proposed to be mined that were not indicated on mining company maps and not included in the calculated totals of lengths of streams to be affected. The reasons for these omissions of stream segments in mining company documents is not clear, but might be due to lack of adequate ground-truthing, forested canopy coverage that obscures the stream channel on aerial photographs, or over-reliance on streams designated on USGS topographic quadrangles. Whatever the reason, the linear feet of stream proposed to be affected in Table ES-2 should be considered not be

considered reliable until such time that the accuracy of the stream mapping efforts for each mine can be verified.

**WEA COMMENT 15: AEIS asserts that according to their comparative analyses, buffer areas (i.e., no-mine areas) around high-value wetlands and perennial/intermittent streams "resulted in a lesser level of environmental protection."**

This is another way of saying that mining the lands around wetlands and streams is ecologically preferable (for the wetlands) to the preservation of surrounding lands. There are many professional biologists and ecologists with decades of experience in Florida that would vehemently disagree with the mining companies' assertion that wetland/stream systems are benefitted in the long term by mining around them rather than by protecting them through the observance of no-mine buffers. That such an unsupported and incorrect statement is actually made in the AEIS demonstrates the extent of the pro-industry bias in the AEIS.

The above claim is very similar to another claim frequently offered by applicants, namely that mining reclamation will produce ecologically superior wetlands and streams to those presently on the landscape. One common way that applicants support their claims that post-mining wetlands and streams will be better than existing wetlands is through WRAP/UMAM analyses. However, most practicing ecologists know that WRAP or UMAM scores can be very easily biased just by varying one's underlying assumptions. This is particularly true with regard to the projected future WRAP/UMAM scores of reclaimed wetlands, where best case mitigation scenarios can be envisioned such that reclaimed wetlands are routinely expected to be better than their natural counterparts. In reality, if WRAP/UMAM scores for reclaimed wetlands were taken from the scores of average wetland reclamation sites as they now exist, the scores would no longer indicate that most reclaimed wetlands are superior or comparable to their natural counterparts.

In Attachment C-1 of its ERP/Section 404 permit application, CF Industries discusses its UMAM scoring for the proposed SPE mine. Striking examples of how their UMAM scores are biased include:

- Preservation wetlands in the absence of mining were given Location and Landscape Function (LLF) scores of 3 by CF Industries to "reflect the assumed conversion of the surrounding areas to agriculture in the absence of the proposed project and its associated reclamation activities." Since the predominant agricultural use of the tract is pasture (hence the mine being named "South Pasture Extension), one presumes that pasture is the kind of agricultural conversion CF Industries anticipates. Yet in the case of enhanced wetlands after mine reclamation, CF Industries assigned LLF scores of 6-9, stating "scores at the lower end of the range were generally given to wetlands adjacent to pasture and exposed to agricultural activities...scores at the higher end of the range were

generally given to wetlands located well within the interior of the No Mine area, where they are buffered from the agricultural uses on the site."

So, reclaimed wetlands surrounded by reclaimed pasture are given twice the LLF score as preservation wetlands surrounded by pasture. Under the mining scenario, wetlands in the middle of no-mine preservation areas are given up to three times the LLF score as those very same wetlands in the very same landscape positions without mining.

- Preservation wetlands were assigned future Water Environment (WE) scores of 8 if mining occurred while those same preservation wetlands were assigned future WE scores of 6 if mining did occur. CF Industries' first justification for the higher with-mining scores is that "wetlands in the No Mine area may be subject to agriculture/cattle restrictions that are not currently in place, resulting in universally high water quality." In other words, the landowners that have always used these lands as part of a cattle operation may decide to restrict such uses once they get their land back after mining is completed. CF Industries' second justification is that "overall site hydrology will be similar or better (less flashy) in the post-reclamation scenario relative to current hydrological conditions." In other words, in the long run mining improves or leaves hydrology unchanged.

- Preservation wetlands, which are presumably include most of the ecologically high-value wetlands on the SPE site (hence their being chosen for preservation) are given Community Structure (CS) scores of 2 to 8 under the no-mine scenario. All wetlands created after mining were given straight CS scores of 7. This shows demonstrates CF Industries' belief that reclaimed wetlands will have better community structure than the majority of the natural wetlands currently on the site. This is in spite of the fact that reclaimed wetlands, as they actually exist today, demonstrate very poor community structure characteristics when compared to native wetlands.

- The above are just a few examples of the bias in the UMAM scoring process; there are more.

**This pervasive manipulation of the UMAM process to produce results that favor mining and that lower the amount of mitigation *must* be addressed by USACE. To fail to do so is to allow the requirements of the CMR to be ignored. USACE should critically review the underlying assumptions of each applicant's UMAM evaluative process. USACE should critically review individual UMAM wetland scores just like they critically review the accuracy of the wetland delineations. USACE should not accept with-mine UMAM scores that are based on hypothetical, best-case predictions of how good reclaimed wetlands are going to be. Instead, USACE should only accept UMAM scores based upon either: 1) the actual predominant state of reclaimed wetlands today, or 2) reclamation demonstration**

**projects that have actually achieved success (and this is applicable only *if* the applicant formally commits in the permits to applying these newer technologies).**

**WEA COMMENT 16: The AEIS provides minimal acknowledgement of ecological impacts associated with dewatering-induced drawdowns of surficial aquifer systems.**

The AEIS (pp. 21-22; 3-60) acknowledges that with mining-associated dewatering of surficial aquifer systems, "the potential exists for hydrologic impacts to occur" to environmentally sensitive habitats. The AEIS notes that the traditional ditch and berm systems have been "variably effective" in maintaining SAS water levels, and that localized drawdown effects may range from minimal to up to 20 feet of drawdown, depending on site-specific conditions. The AEIS further notes that "this type of drawdown effect (approximately a 10-foot drawdown effect) can occur in areas where drawdown throughout the water table occurs in spite of water table management efforts."

The AEIS then states that "the most promising approach identified to date involves inclusion of recharge ditch features to promote hydrologic barrier effectiveness in preventing water table drawdown impacts on the protected preserve areas." The AEIS then provides an example of a site where a recharge ditch system successfully prevented adjacent drawdowns (Figure 3-33). However, the AEIS presents no counterbalancing examples of where recharge ditches intended to protect wetland resources have failed to do so. My own independent field observations of ditch recharge systems (as well as ditch and berm systems) have shown that they are subject to failure with regard to maintaining the natural hydrologic regimes of adjacent and/or downslope wetlands. While it is appropriate for the AEIS to mention examples of successful minimization of dewatering impacts, the AEIS should also have examined very closely the frequency of, reasons for, and ecological consequences of recharge ditches failing to perform properly. **Nowhere in the AEIS is there such a discussion of the ecological impacts associated with dewatering at locations where recharge ditches fail to provide adequate protection.**

**WEA COMMENT 17: The AEIS ignores the Floridan aquifer system drawdown associated with the Wingate East and South Pasture mine extensions.**

The AEIS (p. 22) appears to dismiss the hydrologic impacts of the Wingate East and South Pasture mine extensions on the Floridan aquifer system (FAS) "because those are extensions of existing mines; no new FAS water allocations are involved in their operations." These mine extensions still require environmental permits and approvals, so the fact that they are extensions should not justify the dismissal of their impacts. At the very least such mine extensions involve the prolonging of the consumptive water use of these mines over additional decades, and therefore contribute to prolonging the reduction of river baseflows and lake/wetland stages.

**WEA COMMENT 18: The AEIS provides minimal discussion of the ecological effects of mining-related Floridan aquifer system drawdowns on local and regional wetlands and streams.**

The AEIS (pp. 22-23, 3-63 to 3-67, Figures ES-5 and ES-6) acknowledges that with mining-associated dewatering of the FAS has contributed to "reduced groundwater contribution to river baseflows and lowered lake and wetland stages." The AEIS notes that the cessation of flows at Kissingen Spring was in part due to phosphate mining use of FAS wells for water supply. The AEIS notes that

> "...in the Upper Peace River Watershed where extensive presence of karst formations exists, mining water supply withdrawals from the FAS almost certainly contributed to regional FAS drawdown that also contributed to lowered aquifer gradients within the overlying IAS and SAS."

The AEIS (p. 3-67) cites a USGS investigation of Charlie Creek demonstrating the linkage between Upper Floridan aquifer water levels, upward groundwater discharge, base flow contributions, and creek streamflow. USGS

> "...found that the artesian head conditions (i.e., pressure from groundwater) in the intermediate aquifer system were an important source of upward flow to the surficial aquifer in the vicinity of headwater wetlands and stream channels. Artesian head conditions in the intermediate aquifer system were consistently associated with wetland-dominated headwater regions which prevent water in the surficial aquifer and wetlands from recharging downward. Because of this demonstrated phenomenon, it was concluded that a reduction in artesian head pressure in the intermediate aquifer system would result in reduction of streamflow by lowering wetland water levels, increasing depression storage, and reducing the frequency with which water stored in the wetlands spills over to streams."

So, the AEIS makes it clear that FAS withdrawals can and do result in lowered levels in the SAS and therefore lowered levels in wetlands connected to and maintained by the SAS. However, there is no real discussion in the AEIS of the ecological impacts to wetland, lake, and riverine systems associated with such lowered baseflows and stages. In the Water Resources discussion, the AEIS (p. 3-67) briefly cites a study by Bacchus et al (2011) linking vegetation stress to groundwater withdrawals, but there is no other mention or discussion of ecological drawdown effects.

With regard to the drawdown impacts specifically associated with the proposed mines, the AEIS acknowledges that maximum drawdown effects of the Desoto and Ona mines is "on the order of 4 and 6 feet, respectively." The AEIS then states that "essentially no effect was predicted on water levels" in areas prone to saltwater intrusion or to "inland areas east of the CFPD

boundary." The AEIS fails to address the induced effects of FAS drawdowns on the SAS and all the unmined wetland systems *inside* the CFPD boundary. Considering that the CFPD encompasses an area of 1.32 million acres, this is a disturbing oversight.

It should be noted that a drawdown of average wetland water levels of even 1 foot is enough to significantly damage some types of wetland systems. Figures ES-5 and ES-6 depict the simulated FAS drawdowns associated with the Desoto and Ona Mines, respectively. Based on those figures, roughly 300 square miles or 192,000 acres are within the simulated 1-foot drawdown contours of the two mines. Table ES-2 indicates that 18.8% of the lands to be disturbed by the Desoto mine are wetlands, and 22.0% of the lands to be disturbed by the Ona mine are wetlands. Applying those percentages to the lands within the 1-foot simulated contour of each mine would result in over 40,000 acres of potentially affected wetlands. Of course the relationship between FAS and SAS drawdowns are not one-to-one, and site-specific conditions would determine the actual wetland impacts resulting from groundwater withdrawals in each area, but there nevertheless remains the possibility of drawdowns adversely impacting thousands of acres of wetlands in addition to those physically lost due to mining. These wetland impacts should have been evaluated in the AEIS.

**WEA COMMENT 19: The AEIS provides inadequate discussion of impacts to scrub habitats and the federally-listed species they support.**

Chapter 5 of the AEIS notes that 'xeric scrub habitats within the CFPD have the potential to support several scrub-dependent listed species including the federally-listed Florida scrub jay, bluetail mole skink (*Eumeces egregius lividus*), sand skink (*Neoseps reynoldsi*), Florida bonamia (*Bonamia grandiflora*), Florida golden aster (*Caryopsis floridana*), and perforate reindeer lichen (*Cladonia perforata*)." Yet **Chapter 4 (Environmental Consequences) of the AEIS provides no discussion of environmental consequences of mining on these federally-endangered or threatened species, nor of scrub habitat, which is one of the rarest and most threatened upland habitat types in Florida.** Similarly, Chapter 3 (Affected Environment) mentions that federally-listed species occur in scrub habitats, but does not address scrub habitats as an imperiled ecosystem.

Chapter 5 does state that "phosphate mining companies avoid and preserve xeric scrub habitats to the "extent practicable," and discusses ways in which impacts to scrub habitats are mitigated. What is missing, however, is any presentation or discussion of the projected loss of scrub habitat associated with the proposed mines, or the extent to which these impacts will be adequately mitigated. Of the five federally-listed species the AEIS acknowledges as occurring in scrub habitats of the CFPD, impact minimization and mitigation measures are discussed only for one of them (i.e., the Florida scrub jay). **The AEIS should fully evaluate the impacts of phosphate mining on this critically endangered upland habitat and the listed species it supports.**

Submission number 379

The Fertilizer Institute
Nourish, Replenish, Grow

July 31, 2012

**VIA ELECTRONIC DELIVERY**

Army Corps of Engineers
Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

***Re: Comments on Draft Area-wide Environmental Impact Statement (AEIS), Phosphate Mining***

Dear Sir or Madam:

The Fertilizer Institute (TFI), on behalf of its member companies, submits these comments in response to the U.S. Army Corps of Engineers (Corps) Draft Area-wide Environmental Impact Statement (AEIS) for Phosphate Mining Affecting Waters of the United States in the Central Florida Phosphate District (CFPD). The draft AEIS is in response to four permit applications with numbers SAJ-2011-01968, SAJ-2010-03680, SAJ-2009-03221 and SAJ-1993-01395.

**STATEMENT OF INTEREST**

TFI represents the nation's fertilizer industry including producers, importers, retailers, wholesalers and companies that provide services to the fertilizer industry. Its membership is served by a full-time Washington, D.C., staff in various legislative, educational and technical areas, as well as with information and public relations programs.

The Corps has received four permit applications under Section 404 of the Clean Water Act (CWA) from phosphate mining companies in Central and Southwest Florida. The permit applications described the proposed creation of new phosphate mines, expansions of existing mines, and construction of attendant facilities. CF Industries, Mosaic, and other TFI members operate, or rely on, mining operations producing raw materials for fertilizer production, including the mining of phosphate rock, which falls within the scope of the AEIS for Florida. TFI members also operate, or depend on, facilities which extract, beneficiate, or process phosphate rock, and thus fall within the scope of the AEIS. As such, TFI and its members have a substantial interest in the Corps' preparation of this AEIS and offer the following comments.

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## COMMENTS

### I. Phosphorus Is Essential to Plant Growth and Phosphate Fertilizer Production

The draft AEIS recognizes that phosphorus is "an essential nutrient needed to sustain plant and animal life, and that there is no substitute for it." (Section 1.2.1.1, Need for Phosphate Rock.) The major sources of foreign phosphate are in Morocco, Jordan and Syria, and domestic supply is increasingly reliant on foreign sources.[1] This presents serious economic and food security concerns. The draft AEIS notes this:

> However, as noted previously, the U.S. no longer produces a surplus of phosphate and instead is increasingly reliant on imported phosphate to meet increasing demands for food supplies in the U.S. and elsewhere (Lifton, 2011). Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world. The political security of these supplies is lacking, with disruptions a common occurrence (Lifton, 2011).[2]

In 2011, 28.4 million tons of marketable products (beneficiated product suitable for phosphoric acid production) were produced in the United States.[3] The CFPD provided 51 percent of the total U.S. production of phosphate rock in 2010.[4] Florida's incredible market share in the domestic supply of phosphate is endangered by the anticipated mine closures over the next 20 years – only one phosphate rock mine is expected to be active in 2030, unless additional permits are issued. By 2020, mines in the CFPD that produced 47 percent (12.3 million metric tons (Mt)/year) of the entire 2010 domestic phosphate rock supply (26.1 Mt) will be closed.[5] It is safe to say that Florida's phosphate operations are a part of the backbone of agriculture in our country and that meeting our phosphate needs domestically frees us from reliance on less stable foreign sources. The Corps must continue to consider the importance of the unique and irreplaceable asset this country has in its domestically produced phosphate.

Phosphate fertilizers are also a globally traded commodity, and it is important for domestic producers to have a cost structure that allows them to remain competitive in this global marketplace. Considering the major sources of foreign phosphate are in Morocco, Jordan and

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[1] U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 2-73.

[2] U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 1-11.

[3] *Mineral Commodity Summaries 2012,* (2012, January) U.S. Geological Survey

[4] U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 1-11.

[5] U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 1-12.

Syria (and the comparative lack of costly regulations of those sources), this presents serious economic and food security concerns. The Corps should continue to emphasize this fact.

The Corps must prioritize the necessity of phosphorus to agriculture while acknowledging the dire supply shortage the U.S. will face if no additional mining permits are granted in the coming years. TFI urges the Corps to issue the permits applied for in the CFPD without additional costly restrictions that our competitors do not face. For example, the avoidance areas suggested in the draft as potential on-site mining alternatives would result in a devastating loss of reserves (in some cases encompassing the entirety of the mineable reserves on the property) and likely also a huge increase in regulatory costs to implement. Likewise, suggestions in the draft that the companies discard years of permitting efforts on properties they already own, on which the mineral reserves are well-established, in favor of alternatives owned by multiple people with unknown reserves is simply not smart—or routine—business practice and not reasonable.

## II. Phosphorus is Essential to Global Food Security

TFI takes great interest in the permit applications because phosphate – a key ingredient in fertilizer – is essential to meet the needs of a growing world. Commercial fertilizers are now responsible for 40 to 60 percent of world food production. Phosphate is an essential nutrient that cannot be substituted by other fertilizers as it plays a unique role in plant growth.

U.S. farmers use about 21 million nutrient short tons of nitrogen, phosphate, and potash each year in the form of chemical fertilizers, helping to sustain high U.S. crop yields.[6] Use of nitrogen or potash fertilizer is not a substitute for phosphate fertilizers because phosphate plays a unique role to plant growth that nitrogen and potash cannot fulfill. The sources of the nitrogen has changed markedly in recent years from domestic to foreign suppliers, making the U.S. increasingly dependent on nitrogen fertilizer imports. Today the U.S. imports over half of the nitrogen supply. Due to limited potash reserves in the United States, the U.S. relies upon imports for approximately 85 percent of its potash needs.

The picture is different for phosphate though, most of which comes from domestic production. The U.S. phosphate fertilizer industry is one of the largest in the world, producing 13.9 percent of all phosphate rock and exporting 27.2 percent of all processed phosphate in the world in 2010.[7] This makes the U.S. the largest exporter of ammonium phosphate fertilizers.[8] It is vitally important to our economy that Florida and the U.S. help maintain this net export status by continuing to mine phosphate in Florida to maintain a homegrown supply for domestic fertilizer plants. A reduction in domestic phosphate supply jeopardizes U.S. food security by placing the majority of fertilizer manufacturing in the hands of politically tumultuous countries like Syria

[6] *Commercial Fertilizers 2010.* (2011 December). Association of American Plant Food Control Officials.
[7] *Processed Phosphates Statistics 2010,* (2011, October). International Fertilizer Industry Association.
[8] *id*

and Jordan.

The U.S. Department of State (USDS) asserts demand for food is projected to increase by 50 percent over the next 20 years to accommodate a population of 9 billion by 2050.[9] Improved agricultural productivity, via the efficient use of all fertilizers, including phosphate fertilizer, is essential to reduce hunger. In the *USDS Global Hunger and Food Security Initiative*, USDS points to U.S. investments increasing access to agricultural inputs such as "seed, feed, fertilizer and irrigation systems..." TFI agrees with the USDS's position and encourages the Corps ensure interagency alignment in policies affecting food production and hunger.

In 2011, fertilizers accounted for 26 percent of total crop production operating costs.[10] Considering this substantial share of a farmer's input costs, any increase in the price of fertilizer due to reduced supply threatens a farmer's ability to produce enough food in the most efficient manner. Additionally, without fertilizer to boost crop production in the areas already cultivated, farmers would need to put additional land into production to meet global food demand. The use of fertilizers, including phosphate fertilizers, allows farmers to grow more food on less land, preserving natural habitats.

For these reasons we support the issuance of the requested permits so that Florida phosphate mining can continue to be an essential piece of global fertilizer and food production and distribution worldwide.

### III. Reclaimed Mining Areas and Lakes Support Healthy Ecosystems

It is well documented that restoration activities post-mining result in healthy, balanced ecosystems. Reclaimed mining lakes meet all State designated uses (i.e., they are fishable/swimmable) and provide diverse habitat for fish and wildlife. Such lakes support ecological and recreational uses ranging from "world-class sport fishing," "substantial foraging benefits . . . for resident and migratory wading birds and waterfowl," and habitat for "a broad array of semi-aquatic and terrestrial amphibians, reptiles, and mammals."[11] Reclaimed wetlands and streams provide that mining causes no net loss of wetlands, resulting in a diverse array of habitat for fish and wildlife, and often have beneficial impacts on water quality.

Specifically, a 2008 study showed that reclaimed mining lakes in Florida support "over 190 avian species, along with some 27 and 29 mammalian species," including several "federally and state listed species such as the gopher frog, Florida mouse, Sherman's fox squirrel, gopher

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[9] *Global Hunger and Food Security Initiative Consultation Document.* . Retrieved from U.S. Department of State website: http://www.state.gov/documents/organization/130164.pdf

[10] *Commodity Costs and Returns: Data* (2012, May) Retrieved from U.S. Department of Agriculture, Economic Research Service website: http://www.ers.usda.gov/data-products/commodity-costs-and-returns.aspx

[11] Hammond, D., & Durbin, D. (n.d.). *Nutrient Levels in Lakes Reclaimed after Phosphate Mining.* Entrix.

tortoise, American alligator, Eastern indigo snake, wood stork, bald eagle, Florida scrub jay, least tern, sandhill crane, and osprey."[12] Such lakes also support "the same community of native fishes as natural lakes in Central Florida."[13] In particular, the Tenoroc Fish Management Area in Polk County is a reclaimed mining lake owned by the State and managed by the Florida Fish and Wildlife Conservation Commission (FWC) that is "nationally noted for largemouth bass and provides excellent fishing for panfish (bluegill and redear sunfish), black crappie and several varieties of catfish." The lake and its surrounding area also support other recreational uses as they "create an important refuge for wildlife, and serve as a top-notch destination for anglers, birdwatchers, hikers, and horseback riders."[14]

Other examples of reclaimed mining lakes meeting the State's designated uses are also present. For instance, the Hardee Lakes Park, owned by Hardee County and managed by FWC, consists of four reclaiming mining lakes that support spectacular bass fishing opportunities. Also, the Saddle Creek Park in Polk County is "widely recognized as an optimal spot for bird watching." Moreover, the Edward Medard Park and Reservoir in Hillsborough County "hosts half a million visitors annually . . . [and] provides an abundance of recreational uses such as bicycling, skating, boating and paddling, swimming, camping, hiking, and abundant fishing."[15] These lakes support healthy, diverse populations of fish and wildlife and Corps permitting should take into account the benefits reclaimed mining lakes have on the environment.

## CONCLUSION

TFI appreciates the Corps consideration of these comments on the draft AEIS. As the CFPD produces 51 percent of the domestic phosphate rock supply and the U.S. is the largest exporter of processed phosphate exports, ramifications of a moratorium on Florida phosphate mining must be considered in the global context. With mine closures in the CFPD imminent over the next 20 years, sustaining phosphate supply should be of utmost importance to the Corps. Environmentally, phosphate mining creates reclaimed lakes, wetlands, streams and uplands which support healthy flora and fauna. Most importantly, the essential role of phosphorus for farmers to produce food and for people to obtain proper nutrition must be a paramount factor in the AEIS decision making process.

The Corps has established and kept to a schedule for the AEIS. This efficient use of the National Environmental Policy Act process is commendable. We urge the Corps to adopt an equally efficient and effective process to complete its review of the pending phosphate permit applications, and issue the permits promptly after completion of the AEIS.

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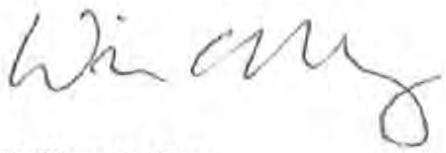
[12] *id*
[13] *id*
[14] *id*
[15] *id*

Please contact me by telephone at (202) 515-2706 or via e-mail at wcherz@tfi.org if you would like to further discuss our comments.

Sincerely,



William C. Herz
Vice President of Scientific Programs

Submission number 380

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**From:** Angela Black [mailto:angelab@fb.org]
**Sent:** Tuesday, July 31, 2012 8:36 AM
**To:** teamaeis@phosphateaeis.org
**Subject:** Comments on AEIS on Phosphate Mining in the Central Florida Phosphate District

Attached please find comments from the American Farm Bureau Federation regarding the AEIS on Phosphate Mining in the Central Florida Phosphate District.

**Angela Black**
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July 31, 2012

Army Corps of Engineers
Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

Dear Sir or Madam:

The American Farm Bureau Federation (Farm Bureau) appreciates the opportunity to provide input on the *Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District* (Draft AEIS).

Farm Bureau is an independent, non-governmental, voluntary organization governed by and representing farm and ranch families. It is the country's largest general farm organization, with farmer and rancher members of every size and scale of operation in all 50 states and Puerto Rico who grow, produce and raise the food, fiber and energy sources that feed, clothe and fuel the U.S. and the world.

Phosphate is one of the primary nutrients essential for plant growth and crop production. It is a non-renewable resource that must be mined from nature as phosphate minerals and cannot be manufactured. The bulk of the phosphate mined – about 90 percent – is used to produce phosphate fertilizers, and another 5 percent is used to make animal feed supplements – both important tools for farmers and ranchers.

The Draft AEIS recognizes that phosphorus is "an essential nutrient needed to sustain plant and animal life, and that there is no substitute for it." (Section 1.2.1.1, Need for Phosphate Rock.) Policies adopted by the Army Corps of Engineers (the Corps) should be based on this indisputable fact. In particular, the major sources of foreign phosphate are in Morocco and China, countries that present potentially serious economic and security concerns, which the Draft AEIS notes (Section 1.2.1):

> Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world. The political security of these supplies is lacking, with disruptions a common occurrence. (Lifton, 2011)

The Corps needs to continue to present a clear picture of the unique and irreplaceable asset this country has in its domestically produced phosphate. These factors, as recognized in the Draft AEIS, need to be paramount as the Corps evaluates the pending phosphate mining permit applications.

Farm Bureau supports phosphate mining because the use of safe and effective fertilizers enables American farmers to grow healthier crops and produce greater yields per acre. In turn, this requires less land for farming and puts less development pressure on wilderness areas that may have been utilized for agricultural purposes. In fact, due to the availability of fertilizers, farmers are able to produce twice as many crops as in the 1950s on the same amount of land. Furthermore, 75 percent of the phosphate used by farmers and even home gardeners across America comes from the state of Florida.

Farm Bureau commends the Corps on the comprehensive nature of its study, the science-based approach it has taken, and its efficient use of the National Environmental Policy Act process by establishing and keeping to a schedule for the Draft AEIS. Farm Bureau urges the Corps to adopt an equally efficient and effective process to complete its review of the pending phosphate permit applications, and to issue the permits promptly upon completion of the Draft AEIS.

Farm Bureau supports the issuance of the requested permits so Florida phosphate mining may continue to provide the vital ingredients needed to keep farmers' crops thriving so they can continue to meet the growing demand for food around the world. Phosphate ore unnecessarily left in the ground is a lost resource for agriculture. Farm Bureau encourages you to allow mining to move forward so that the many benefits of this critically important resource can be realized by farmers and consumers across America.

Sincerely,

Mark Maslyn
Executive Director
Public Policy

Submission Postcards
(numbers 381 through 383)

381

# I Support Florida Phosphate

My name is Walter Jones,
and I reside at 4619 Summer Cove Dr
Riverview FL 33578.

I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District,* and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

☐ I attended one of the public meetings hosted by the Army Corps in June 2012.

RECEIVED
JUL 20 2012
Tampa Regulatory Office

Submission number 384

-----Original Message-----
From: Terry Miller [mailto:tmiller41@embarqmail.com]
Sent: Tuesday, July 31, 2012 1:04 PM
To: Fellows, John P SAJ; teamaeis@phosphatewaeis.org
Subject: DAEIS

Sirs:

Before deciding on whether your DAEIS is complete as to phosphate mining in Florida, consider the following:

1) Please recognize the multiple impacts phosphate mining has on Florida ground and surface water and wetlands.

2) Please analyze wetland and stream damage and the results of long delays in reclamation.

3) Please study the impacts of gypstacks and gypstack spills.

4) Please confirm that the world's supply of phosphate is large and Florida's supply of phosphate is comparatively small.

5) Please explain why the massive use of Florida water is free to phosphate mining and why Florida taxpayers are subsidizing phosphate mining in Florida.

6) Please explain why the phosphate mining industry deserves such protection, since the number of cluster jobs in agriculture would far outstrip those available in phosphate mining.

Thank you,
Terry Miller
Punta Gorda, FL

Classification: UNCLASSIFIED
Caveats: NONE

Submission number 385

**From:** Jono Miller [mailto:jonosarasota@gmail.com]
**Sent:** Tuesday, July 31, 2012 4:07 PM
**To:** teamaeis@phosphateaeis.org
**Cc:** John.P.Fellows@usace.army.mil
**Subject:** Comments on Draft Phosphate AEIS

I'm conveying my personal comments and hope the majority of these observations address aspects of the DAEIS others have not dwelt on. As a contributor to the 1977 Fish and Wildlife Inventory of the Seven-County Region included in the Central Florida Phosphate Industry Area-Wide Environmental Impact Study, I had great expectations regarding this Draft Areawide Environmental Impact Statement.

nstead I find I've been reviewing a document that, rather than taking a holistic, regional approach, instead devolves into oblique analysis of numerous, fragmented "alternative polygons" that (possibly aside from access to beneficiation plants) are presumed to have little or no relation to neighboring polygons.

While I don't believe existing Manatee County constraints on mining in the Manatee reservoir watershed, the Evers (Braden) watershed, and Peace River watersheds are sufficient to provide optimal protection as a consequence of the existence of the Manatee County Mining Ordinance, I suspect that the use of potable water from these surface water sources will result in addition scrutiny regarding water quality impacts. The existence of the ordinance and some it provisions were apparently sufficient to eliminate five alternative sites (AA, BB, DD, EE and Z) from consideration as shown in Figure 2-18 on page 2-37.

Page 2-36 Step 3 exists to identify legal ordinances that preclude mining or mining operations. This section identifies prohibitions related to potable water supply in Manatee County, but does not mention any of the extant mining prohibitions in Sarasota County, which would affect (and probably should eliminate) Alternative Sites L&K.

Figure 2-12 (Page 2-25) reveals that both in absolute and relative terms, more of the Myakka Basin has been protected than in any of the other basins in the CFPD. This represents tremendous public investment over more than 75 years, and deserves to be protected just as rigorously as potable water sources do.

Consequently, I am particularly concerned regarding impacts on public resources in the Myakka Basin, which not only contains currently permitted Wingate Creek mine (Figure 2-1, Page 2-5), but also the proposed Pine Level/Keys Tract mine (Figure 2-3, Page 2-10), the Wingate East Mine extension (Figure 2-2, Page 2-7) and ten alternative polygons (Page 2-53 Figure 2-27) L, K, Q, R-2, U, V, W, X, and Y-2.

Even the naming of these alternatives is problematic and thwarts analysis. MY-1, MY-2. etc. would have instantly identified these as Myakka basin alternatives, but as it is there is no mnemonic device that allows one to quickly determine what basin each alternative relates to.

Page 33 Lines 12-15 "*the cumulative effect on the Myakka River discharges to Charlotte Harbor was a reduction in predicted annual flows from 709 cfs to 696 cfs. This represents a decrease of 13 cfs, or approximately 2 percent of the water deliveries to the Charlotte Harbor estuary from the Myakka River Basin.*"

The Myakka estuary is already flow deficient as a result of the historic diversion of Cowpen Slough and the creation of the Blackburn Canal that was dredged to the west to divert high river flows. So the real impacts of a 2% diversion would need to be added to historic diversions from the estuary in order to accurately assess the impacts.

Page 34 Lines 3-6 This text regarding maximal cumulative impact assumes that the maximal impacts will be caused by diminished flows. That is certainly a distinct possibility and deserves careful consideration. However, the Myakka has no base flow so the AEIS needs to address the contrary possibility the maximal impacts could be caused by increased flows (which have already killed 2.5 square miles of swamp habitat in Flatford Swamp). These increased hydroperiod flows are related to agricultural pumping, not mining, but demonstrate that the Myakka system is very sensitive to increased flows. Based on the history of the phosphate industry, shedding excess waters during extreme high rainfall events or containment failures may pose a greater threat to the Myakka and Charlotte Harbor. For historic perspective on these documents threats see Table PR-QL-42 on pages PR 251 and 252 in Miller, Jonathan and Morris, Julie. 1981, The Peace River, *in* Estevez, E.D., A review of scientific information – Charlotte Harbor (Florida) estuarine ecosystems complex: Fort Myers, Fla. Mote Marine Laboratory Review Series No. 3. 1077 p.

Furthermore, lumping the Peace and Myakka together does each a disservice and using annual averages masks critical aspects of timing.

The boundary of the area of central Florida believed to contain economically recoverable phosphate deposits has changed through time (see one example attached: Map of Phosphate Regions of Florida from **Landscape restoration following phosphate mining: 30 years of co-evolution of science, industry and regulation.** Mark T. Brown. Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL 32611, USA. 2005. Note the

Southern Phosphate District is smaller than the present CFPD and the pale grey areas that depict "secondary reserves".)

Since the area in question is a function of the depth of overburden relative to matrix depth and quality, it can be expected to change in the future. Unquestioned acceptance of the CFPD boundary is naïve and misleading. As a result of using the CFPD, five of the Myakka polygons are truncated by the boundary of the CFPD, a fact I find both curious and problematic. Either there are mineable phosphate reserves on the west boundaries of these polygons (in which case the reserves can logically be expected to persist to the west), or there are not, in which case the inclusion of these five is suspect due to the high probability of reserves that cannot be profitably mined.

Page 3-42 Figure 3-17 purports to show gauges in the CFPD region, but omits any gauges in the Myakka Basin. This figure is contradicted by Figures 4-33, 4-35, and 4-43.

Pag3 3-46 Lines 5-21 This discussion of Big Slough (aka Myakkahatchee Creek) that focuses on flooding neglects to mention that the City of North Port's "principle source of raw water supply is surface water from the Myakkahatchee Creek". This crucial fact is mentioned without comment on Page 3-86, Lines 18 and 19 and again on Page 3-144 Line 26. This fact needs more attention and analysis as questions of water quantity, quality and quantity take on added meaning when municipal supply is at stake.

Pursuant to statements on Page 3-144 (lines 30-32) "*Protection of public drinking water supplies is a critically important factor to be considered during AEIS evaluations of potential effects of proposed or future phosphate mining*" it is not without irony that Manatee County (which has county-wide jurisdiction) can adopt an ordinance designed to protected surface watersheds that contribute to potable drinking water sources and have alternative polygons removed from consideration as a result, while the City of North Port, which also relies on a watershed (page 3-147, Lines 1-12) but has no jurisdiction north of the City Boundary, cannot eliminate polygons V, L, and K from consideration.

Page 3-147 Lines 5-12 "*there is a foreseeable future mine project, the Pine Level/Keys land area, which has been identified by Mosaic as a likely proposed extension of the Desoto Mine. This foreseeable future mine extension would affect land areas near the uppermost reaches of the Myakkahatchee Creek watershed; review of potential phosphate mining effects on the human environment will need to address the North Port concerns about possible ramifications of reduced water flows that could occur if mining removes watershed areas from the functional runoff capture area contributing flow to this waterway. Again, any potential change in waterway water quality impacting water treatability to achieve potable water standards would also be of concern*". Admirable use of understatement.

While I found a Figure (3-20) that depicts the Pine Level/Keys Tract in relation to the Big Slough Watershed, I was unable to find a figure showing the relation of polygons V, L, and K in relation to the Big Slough Watershed, but it would appear all three should be removed from

consideration in deference to North Port's water supply strategy. Polygons U and Q are also described as being in the Big Slough watershed. According to Table 4-18 on Page 4-104.

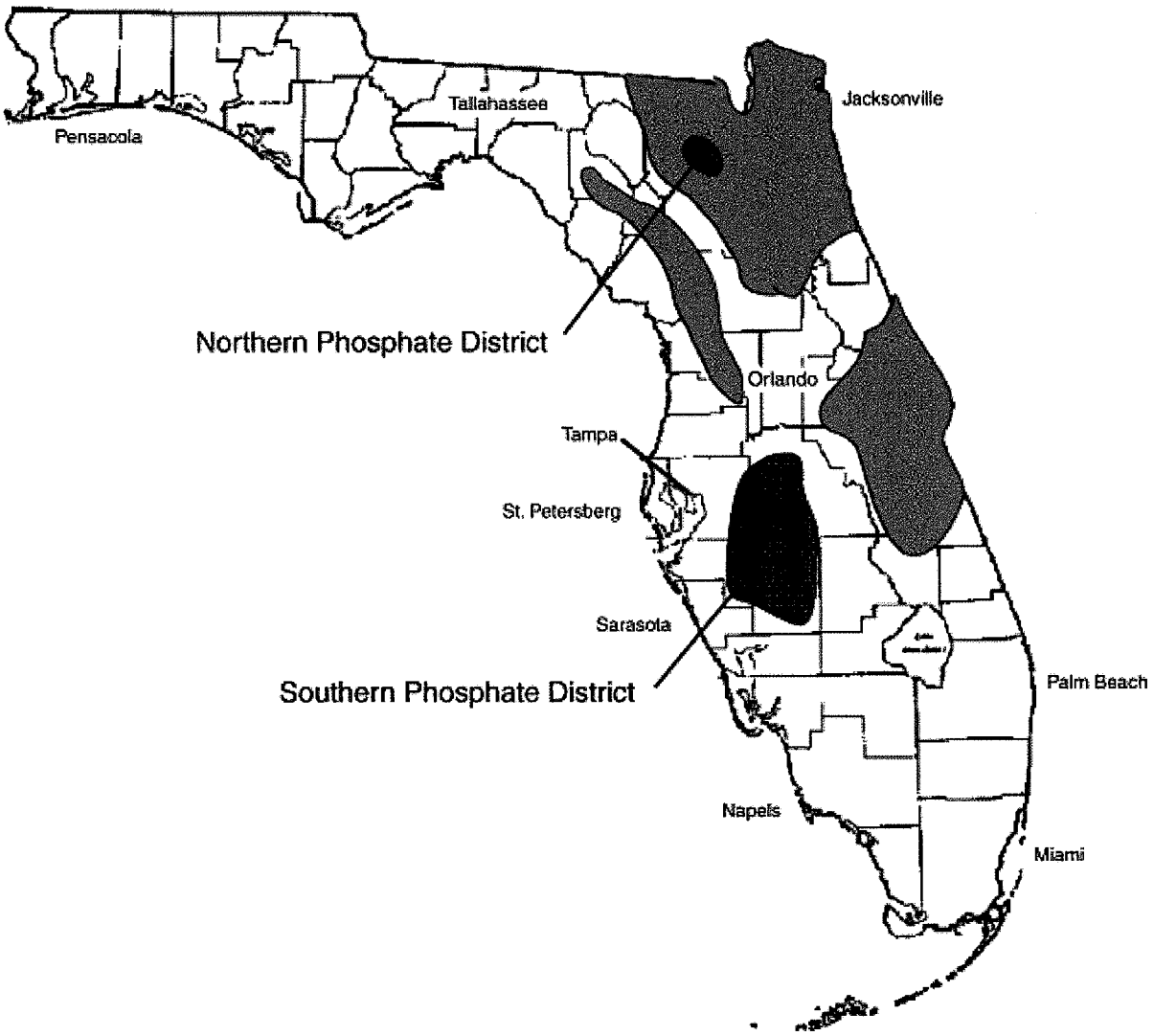
Incredibly, there is no mention of Warm Mineral Springs in the DAEIS. Warm Mineral Spring is the warmest and most mineralized spring in the state. In addition, Warm Mineral Spring is arguably the most unique ecological, hydrological, archaeological, paleontological (fossil) and geological feature in Sarasota County, and with an average flow reported to be around 10cfs even a small decline would severely compromise the value of this feature, which recently came into public ownership at a cost of $5.5 million.

On page A3-3, a graphic showing perennial stream locations (in this case Wingate East Mine) uses blue lines to depict these perennial streams, but surely these maps cannot be accurate since a) in the absence of base flows few, if any, streams in the area flow year-round, and b) if a stream were perennial upstream, it stands to reason it would very likely be perennial downstream, yet many of these blue lines are themselves intermittent, dots and dashes full of import since the proposed buffer widths are measured only from these blue squiggles. I seem to recall previous discussions of this phenomenon that revealed that, due to a lack of a defined stream channel, sloughs (and even the Everglades) might fail to be protected pursuant to the definition of a stream.

In closing, I would like to endorse the comments of Sarasota County, Charlotte Harbor NEP, Manasota-88, People for Protecting Peace River, Protect Our Watersheds, and the Florida Chapter of the Sierra Club. Furthermore, I'd like to protest the time allotted for consideration of the Draft AEIS and the concurrent review period for proposed mines.

Sincerely,

Jono Miller


Pensacola
Tallahassee
Jacksonville
Northern Phosphate District
Orlando
Tampa
St. Petersberg
Sarasota
Southern Phosphate District
Palm Beach
Napels
Miami

Submission number 386

**From:** Betty Sue [mailto:bettysuecarroll@comcast.net]
**Sent:** Tuesday, July 31, 2012 5:18 PM
**To:** John.P.Fellows@usace.army.mil; teamaeis@phosphateaeis.org
**Subject:** DAEIS, phosphate mining

Dear Sirs,
As a long term resident dependent upon the Peace River for my water, I need to comment on the wisdom of permitting further degradation of our watershed.

Anyone with any sense at all would demand that there be no further damage allowed to our watershed until the promised reclamation is completed and there has been a chance to evaluate the success of those projects. To my knowledge, there have been promises to reclaim wetlands and areas adjacent to Peace River feeder creeks for years, but I have heard nothing about their completion nor their success.

We in Southwest Florida are getting extremely fed up with being continually cautioned to conserve every drip of water we use, while a private industry, Phosphate mining, is being given unlimited access to the water that is ours. As a warning, people are beginning to take notice of this situation, and may not be as tolerant much longer.

Thank you,
Betty Sue Carroll,
Englewood, FL.

Submission number 387

Ms. Mary Olsson
4720 Pompano Street
Placida, Florida 33946
maryolsson@ymail.com

Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

July 31, 2012

Re: Area Wide EIS on Phosphate Mining

Dear Mr. Fellows,

As a resident of South West Florida, my concern addresses the protection of water quality supplies feeding Charlotte Harbor, my community's water source. I appreciate the public participation in your critical decision making process and trust your adherence to state and federal regulations will safeguard against potentially harmful mining operations threatening Florida citizens' water supply.

The study concludes that the proposed mining operations present no environmentally significant impact and no harmful public health effects. However, outcomes of recent prior mining sites in Florida resulted in unexpected harmful effects requiring remedial action. I would like to know how the methodology and standards applied within this study's discretionary assessments linking scientific data to the decision making process differs from those used in the approval process in past operations so to guard against reoccurrences of any unexpected harmful results. I would like to know what the higher standards are in this report to assure water flow and quality. In particular, my concern is that the study uses a narrow scope of review for the cumulative impact results of the mining operations in the area.

I refer to the following negative impacts in past approved operations:

1. **2004 FDEP Report regarding 30 MILE CREEK AREA**: negatively impacted by Phosphate Mining & identified as "Impaired" in 2004 due to its sustained problematic Dissolved Oxygen levels. With such results, how have your assessments modifications incorporated to address **"Seasonal water quality &**

**flow levels** near all planned Phosphate Mine operations & Phosphate Fertilizer plant operations?

2. IMC's KINGSFORD Phosphate Fertilizer Chemical Plant: Polk Co. near the Alfia River. Sampling done in AUG 2008 (3 years after plant closed) & finalized in **NPDES REPORT # FL0000256., published in FEB 2009.**

For this proposal, I ask for your further detail explaining the following exclusions in the consideration of cumulative and future impact in the area:

1. P. 1-24, line 17-21 – The "Hardee County Mining Overlay – South Segment" is a potential future mine with (Pioneer and Pine Level/Keys Tracts) sites were not considered, due to insufficient data. Why are sites not an anticipated factor in the cumulative impact assessment, especially surface and groundwater quantity and quality analyses.
2. P. 1-24, line 22-35 – In-fill properties (parcels adjacent to or near proposed mine sites that may be acquired by the mine companies) are not considered in the impact analysis. Why the total area isn't included to establish a total cumulative effect.

   P. 3-47, line 9-15 – Florida law (Chapter 373.042, Florida Statutes) requires the state water management districts or the Department of Environmental Protection to establish minimum flows and levels (MFLs) for aquifers, surface watercourses, and other surface water bodies to identify the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. (Lines 9 through 15). Why are groundwater MFLs conducted using annual pumping? What is rational for recommendation in the MFL impact excluding analysis using the worst case drought period pumping rates, not annual pumping rates? The seasonal groundwater fluctuations appear in the range of 30' to 50', according to the Appendix D (Figures 4 & 5 and the statements on page 16). What is a further explanation to exclude surface water impact on the State's MFLs evaluations and why is the report not using the "annual rainfalls" but the dry season precipitation with the proposed land use change? Why is a 4-saeson water quality & flow reporting for each new Mine, its Mine Area & the Cumulative impacts from several mines all operating at the same times and impacting the same rivers & creeks (horse Creek & Peace River) not required in this proposal?

The data integration and synthesis and the predictive models of field operations methods used are of the same past standards. What is the variability in the development and evaluation of tolerance values and predictive models for measuring the biological integrity and impairment to the waters involved?

The future implications of current practices as they relate to issues of public perception, uncertainty, measurability, and estimation of harm, especially a higher radiation incidence found in past sites, should stimulate regulators and the public view in establishing goals for a more stringent risk management approach for the operation and remediation of mining operations.

I would like to make an appeal to object to this proposal and request a hearing be scheduled to address issues of safety and environmental concerns before relying on the present data.

Sincerely,

Mary Olsson

Submission number 388

**From:** BEVERLY GRIFFITHS [mailto:bevgriffiths@verizon.net]
**Sent:** Tuesday, July 31, 2012 9:14 PM
**To:** John.P.Fellows@usace.army.mil
**Cc:** teamaeis@phosphateaeis.org
**Subject:** Comments on DAEIS for CFPD

July 31, 2012

After review of the Draft Areawide Environmental Impact State for the Central Florida Mining District, I submit the following:

1) The purpose and need statement should be reconsidered and rewritten. It is completely biased in favor of phosphate strip mining every inch of land within the study area that is not already urbanized or placed into conservation, without any acknowledgment of environmental consequences. The statement should include a qualifier such as, "in a manner that protects the environment, restores affected ecosystems and avoids negative downstream impacts".
2) I am unconvinced by the data provided in the draft study that the Floridan aquifer will rebound. The study presumes that the agricultural industry will be required to reduce their water consumption. But if the past and present are any indication, this is unlikely, since the industry has a strong lobbying presence at the state level and historically has operated under voluntary best management practices.
3) Reclamation of post mined land has not kept pace. When mining companies are unable to comply with their reclamation promises, whether due to a shortage of fill material, the inability to comply with dissolved oxygen standards for a pit lake, or meet their time table, they may easily obtain a variance from the state, allowing them to deviate.
4) The draft study does not seriously consider the loss of agricultural jobs which disappear when land is sold to phosphate mine companies and the impact that has on local economies (suppliers, transporters, markets) and workers.
5) There are too many mines being permitted too close together and too little is understood about the cumulative impacts especially to the Peace River and Horse Creek.

In closing, I am very concerned that Florida is getting a bad deal from phosphate mining which produces far fewer jobs than they claim, withdraws massive amounts of our ground water for free, and leaves our land in a very poor and questionable condition—all so mining companies can dig up our phosphate resource as cheaply as possible, convert it to fertilizer and ship much of it overseas. If mining is to continue, the companies must be held to a higher standard in order to protect our land, water and downstream communities and assets such as the Charlotte Harbor estuary.

Thank you for your time and consideration.

Sincerely,

Beverly Griffiths
7201 Alafia Ridge Rd.
Riverview, FL 33569

Submission number 389

**From:** hrbrwlk@comcast.net [mailto:hrbrwlk@comcast.net]
**Sent:** Tuesday, July 31, 2012 11:51 PM
**To:** TeamAEIS@PhosphateAEIS.org
**Subject:** Water Integrity and Natural Systems

I was at the Hearing at the Charlotte Harbor Event Center and had the good fortune to talk with a very nice gentleman with the Scottish heritage who may have been the Chairman of this environmental review and project. He was exceptionally nice,attentive, and respectful.

I stated that water integrity and natural systems are a priority.

There is a product at Publix Crossing in Punta Gorda , Fl called Seventh Generation, a natural, nonpolluting dish, dishwasher, and laundry brand soap. On the bottle back, in small print,it states: "In our every deliberation, we must consider the impact of our decisions on the next seven generations." From the Great Law of the Iroquois Confederacy." That is 175 years when there was lots of land in the US. They understood the relationships of water,land, and life forms. I use all these nonpolluting products and they are superb.

Wetlands should be highly regarded and appreciated! North Dakota and Ohio have laws to protect them. They recognize "They are our Water." Farmers in North Dakota and construction workers in Ohio cannot touch them. They must work around them. The water filters down and purifies itself on the way to the acquifer, where they and we draw our drinking water. The future will have more people drawing on this limited resource. Florida has lost 50% of its wetlands already; probably because of development and lack of understanding of their function.

Wetlands are a rich source of food for life we don't see or appreciate. Many types of wildlife we don't see depend on them amongst which are migrating birds on their long journeys. We are not the only

life on earth. We should respect,appreciate, and enjoy our coinhabitants! We all need food and water.

In your comprehensive documentation I looked at yesterday in awe at the thoroughness. In amazement at the potential impacts. I was happy when I came to Ch 4.Environmental Consequences.

4.2.2.1. DWRM 2 Analytical Overview

No Action Alternative CH 1
No Action Alternative CH 2

4 Environmental Consequences

18-29

Biodiversity
a. Stategic Habitat Conservation
b. Potential Habitat Richness
c. Rare Species Habitat Conservation Priorities
d. Priority Natural Communities

Landscapes
a.Ecological
b.Greenways
Integrity Index

Surface Waters
a,Significant Surface Water
b. Natural Floodplain
c. Wetlands

4.2.2. Groundwater Evaluation Methods

_No Action Alternative 2010 Simulations

4.2.2.1. No New Mines Scenario P 4-10

I would like to suggest that alternative methods to enrich the soil be explored and used.

1. wider spaces between rows of corn as earlier done. Less irrigation needed eliminate need.

2. Plowing dried rubble underground to enrich

I saw a one hour special a year ago on Prince Charles and his organic gardening mission. He had he most incredible, beautiful, lush personal organic
garden imaginable. And of course he didn't have to do all the work. however, he had a personal mission to go to third world countries to teach them how

garden organically and grow their food without costly fertilizers. Perhaps you can get hold of that presentation. Maybe earlier....

It seems to me that it is a travesty to environment to let Mosaic do their mining.

We live beside Laishley Park and look east toward I 75 bridge, overlooking the Peace River. Always, since 1998, the tide would go out different amounts. The most would be almost to our window looking out from a 4th floor condo. The sandy envornment would be bared, different amounts. The birds wouldd be busy feeding. Usually, the water did not recede that much from the mangroves on shore - different amounts. We used to enjoy migrating birds landing for a few days and catching fish from the water below us. Since January, maybe before, they no longer land. The water, even before the rains, no longer recedes at all from the mangroves. The water has looked strangely high. We miss the activity. Mosaic owns land North adjacent to the Peace River. Could they be negatively impacting the tides, the height,and purity of the water?

Wishing you success in preserving the environment for 7 generations,175 years and counting.
Protect wonderful Florida environment for all yet to live here.
That of course is all life forms.

Warm Regards,

Helen Comfort
200 Harbor Walk Dr.
Unit 144
Punta Gorda,FL 33950

Submission number 390

**From:** Just The Facts [mailto:justthefacts500@gmail.com]
**Sent:** Tuesday, July 31, 2012 11:53 PM
**To:** John.P.Fellows@usace.army.mil; teamaeis@phosphateaeis.org
**Subject:** Comments to Draft AEIS for Central Phosphate District

1. The no action and importation alternatives should be considered, not dismissed. According to a statement made to Reuters, Mosaic has enough phosphate for 10 years and this does not count the Wingate Extension which was just approved. There is no demonstrated "need" for strip mining phosphate in Florida at this time. The 2011 USGS report indicates huge reserves around the world and the supply is increasing 20% by 2015. Mosaic imported from Morocco (and Peru) when the S. Ft. Meade Mine Extension mining was halted, proving how easy and profitable it was. Other US companies import phosphate. The Corps should objectively examine these alternatives before granting any more 404 permits, and if any are granted, they should be one at a time many years from now only if there is a demonstrated need. Florida's fragile wetlands, water resources, and habitat could and should be protected from this environmental destruction which is permanent not temporary. I suggest that aerial pictures of old mines be part of the AEIS. Try South Fort Meade which is more than 15 years old. Does it look reclaimed? The clay slime ponds and hideous blot on Florida's landscape is clearly visible from a long ways up. For a closer view, see this 4-minute film that shows the real face of phosphate mining: www.youtube.com/watch?v=spzER-HYeKw

2. The AEIS makes the assumption that reclaimed land is available for other uses within 8 years of completion of mining. Yet, in Manatee County for example, only about 300 acres have been reclaimed and released after about 30 years of mining. Much of the post-mining land has infrastructure, old equipment, etc. The AEIS should have investigated how land that has been mined and reclaimed is being used instead of making an assumption which is obviously an assertion made by the mining companies.

3. Underlying Chapter 5 and the AEIS is the unstated assumption that mitigation/reclamation works. A field study should have been conducted using randomly drawn parcels to determine if mitigation/reclamation meets predetermined criteria for success. The AEIS should have evaluated whether wetland reclamation is achieving the required "gain" in terms of both area and function, the time lapse in achieving similar function, and the extent to which certain types of wetlands, such as bayheads, forested wetlands, and wet prairies can even be reclaimed. Experts in reclamation who have made site visits have said that reclamation efforts are unsuccessful in restoring the nature, type, and function of many native Florida wetland types. This casts major doubt about whether permits to mine these wetlands should even

be granted. The avoidance, minimization, and compensatory mitigation sequence should be more fully discussed in this chapter. The CLIP priority area and stream buffers are a positive aspect of the AEIS.

The AEIS seems to focus on the economic value and not the value of the water, wetlands, natural resources, and land. The public interest needs to become more of a focus in any re-draft. Thank you for your consideration of these comments.

Submission number 391

----Original Message-----
From: Wallace, Traci [mailto:traci.wallace@MyFWC.com]
Sent: Tuesday, July 31, 2012 12:57 PM
To: Fellows, John P SAJ
Cc: Milligan, Lauren; King, Timothy; Goff, Jennifer; Wynn, Chris; Lambert, Carla
Subject: FWC's Comments on Central Florida Phosphate District

Please find attached FWC's Comments on Central Florida Phosphate District. The original will follow by mail.

Traci Wallace, AA III

Office of Conservation Planning Services, MS 5B5

Florida Fish and Wildlife Conservation Commission

850-410-5272

Replies on project review letters should be sent to: FWCConservationPlanningServices@myFWC.com

Classification: UNCLASSIFIED
Caveats: NONE

Florida Fish and Wildlife Conservation Commission

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MyFWC.com

July 31, 2012

John Fellows, SAJ
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite
120 Tampa, FL 33610-8302
John. P. Fellows. USACE.Army.M1L

Dear Mr. Fellows:

Re: Central Florida Phosphate District — Charlotte, DeSoto, Hardee, Hillsborough, Lee, Manatee, Polk, and Sarasota Counties, Draft Areawide Environmental Impact Statement (AEIS) on Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the Draft AEIS for the 1.32 million-acre Central Florida Phosphate District which encompasses all or portions of eight counties. We are providing the following comments for your consideration, in accordance with Chapter 379, Florida Statutes.

The Draft AEIS assesses 25 alternatives for Central Florida phosphate mining, including the "No Action" alternative, as well as four currently pending U.S. Army Corps of Engineers (USACE) dredge and fill permit applications. The pending applications assessed in the Draft AEIS are Mosaic Fertilizer LLC's 18,287-acre DeSoto Mine in DeSoto County, 22,320-acre Ona Mine in Hardee County, 3,634-acre Wingate East Mine in Manatee County, and CF Industries' 18,287-acre South Pasture Mine Extension in Hardee County. Additionally, three of the alternatives are being considered as extensions to existing mines. The remaining 17 alternatives were developed by the USACE as conceptual future mines based on analysis of publicly available Geographic Information System data bases. The Draft AEIS also considers reduced mining footprints based on conceptual buffers around high-quality wetlands and streams, and within wildlife corridors along the Peace River. Chapter 5 of the Draft AEIS assesses mine mitigation including reclamation and permitting practices.

FWC staff has been actively involved with Central Florida phosphate mining through the provision of reclamation and wildlife-related technical assistance to the industry, the counties, and the permitting agencies. Currently, FWC staff is focusing on two emerging issues — the management status of existing reclaimed lands and the status of reclaimed habitats intended to enhance the function of reclaimed ecosystems. There is currently no long-term oversight provided under regulatory permit conditions for land management. Existing reclaimed mine lands have been vulnerable to invasive and exotic plant infestations. Recently reclaimed habitats have also shown vulnerability to functional degradation when left unmanaged. To address these issues, FWC staff is working cooperatively with County and non-governmental organization staff, such as with the Cooperative Conservation Blueprint Program, in order to identify previously reclaimed central Florida mines needing management assistance or offsite mitigation options. Also, FWC staff initiated discussions with industry representatives regarding the creation of a

"Mine Lands Stewardship Program" for oversight and management of reclaimed habitats. We believe that these initiatives, in addition to our continuing participation in federal, state, and local reclamation-related permitting processes, will continue to provide effective mitigation for phosphate mining's impact on the fish and wildlife resources of Central Florida.

FWC staff appreciates the opportunity to review this project and looks forward to continued coordination on fish and wildlife related issues. If you need further assistance, please do not hesitate to contact Jane Chabre either by phone at 850-410-5367 or at FWCConservationPlanningServices@myFWC.com. If you have specific technical questions regarding the content of this letter, please contact Tim King at 863-648-3200 or by email at Timothy.King@myFWC.com.

Sincerely,

Bonita Graham
Land Use Planning Program Administrator
Office of Conservation Planning Services

bg/j dg/tk
Phosphate Mining— Central Florida_1 6334_073112
ENV 1-5-2

cc: Lauren P. Milligan, Florida State Clearinghouse, Lauren.Milligan(.dep.state.fl.us

Submission number 392

TSL THE SULPHUR INSTITUTE

July 31, 2012

USACE — Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610
Email: teamaeis@phosphateaeis.org
Subject: AEIS Comments

Dear AEIS Team:

It is a privilege to write to the U.S. Army Corps of Engineers (Corps) on behalf of The Sulphur Institute, an international, non-profit association representing stakeholders engaged in all aspects of the sulphur industry. We seek to provide a common voice for sulphur, representing producers, consumers, and service providers to promote the ongoing and uninterrupted efficient and safe handling and transportation of sulphur while protecting the best interests of the environment.

The Institute is aware that Florida's fertilizer industry is the largest consumer of sulphur in the United States. Phosphate rock mined in Florida uses sulphur as an essential raw material in the fertilizer production process.

The draft Area-wide Environmental Impact Statement (AEIS) on phosphate mining in Florida released by the Corps is a good start to assuring a continuation of phosphate mining and subsequent fertilizer production in the United States. We agree with draft conclusions that effects of fertilizer production are not part of this AEIS; it addresses only phosphate rock mining.

However, we are pleased that this AEIS recognizes importance of the phosphate industry, including "downstream" economic benefits. In this regard, the relationship between phosphate mining in Florida and utilization of other U.S. domestic products provides both economic and environmental benefits.

Indeed, large-scale use of sulphur by the domestic phosphate industry in the United States supports a healthy sulphur industry that yields notable environmental benefits. Without a thriving phosphate industry, significant amounts of sulphur recovered from petroleum refining and natural gas processing likely would require either disposal or significant investments to research and develop new markets. There is a sound integration between production of sulphur as a co-product of petroleum refining and natural gas processing and use of this sulphur in the fertilizer industry. Without ongoing phosphate fertilizer production, spurred by a steady stream of domestic phosphate rock mined in Florida, a significant market for sulphur would decline (or disappear). Without expanding the scope of the AEIS, the public should be aware of these important economic interrelationships that benefit our environment by making use of what would otherwise be a surplus material sent for disposal.

We hope these additional, important factors will weigh favorably in your consideration of authorizing the safe, sustainable, and economically essential expansion of phosphate rock mining in Florida.

The Corps has set and is maintaining its schedule for this AEIS. We urge the Corps to efficiently and effectively process the pending permit applications for phosphate mining in Florida that will be supported by this AEIS.

Kind regards,

Submission number 393

CHARLOTTE HARBOR NATIONAL ESTUARY PROGRAM
1926 Victoria Avenue, Fort Myers, Florida 33901
239/338-2556, Fax 239/338-2560, www.chnep.org

July 31, 2012

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Draft Areawide EIS on Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

Thank you for the opportunity to review and comment on the May 2012 *Draft Areawide Environmental Impact Statement* (DAEIS) *on Phosphate Mining in the Central Florida Phosphate District*. The Charlotte Harbor National Estuary Program (CHNEP) is a participating agency through the Areawide Environmental Impact Statement (AEIS) Process. The CHNEP was created in 1995 pursuant to Section 320 of the Clean Water Act and is guided by our *Comprehensive Conservation and Management Plan* (CCMP) as required by the Act. This letter constitutes our substantive comments regarding the DAEIS toward development of a revised draft and final *Areawide Environmental Impact Statement* (FAEIS).

The letter was developed according to our adopted Advocacy and Review Procedures, which serve to implement Executive Order 12372, dated September 17, 1983. This letter primarily implements CCMP Action SG-P: Incorporate into federal, state and local permits and public works improved standard practices that better protect estuaries and watersheds.

**CHNEP has determined that DAEIS Chapters 1, 4 and 5 are so inadequate as to preclude meaningful analysis and requests that the U.S. Army Corps of Engineers (ACOE) prepare and circulate a revised draft Chapters 1, 4 and 5.**

History of CHNEP Involvement in the AEIS Process

On November 26, 2000, CHNEP requested the U.S. Army Corps of Engineers (ACOE) prepare a Region-wide Environmental Impact Statement to address cumulative impacts from development, including phosphate mining, in the Peace and Myakka River basins. Several subsequent letters making similar requests were sent. We were pleased with the August 3, 2010 Memorandum for the Record (MFR) concerning "appropriate National Environmental Policy Act documentation for permit applications for phosphate mining in the Central Florida Phosphate District (a.k.a. "Bone Valley")." We have provided significant data and information to the ACOE contractor, CH2M Hill. The ACOE has been responsive to our own requests for information. We also assisted the U.S. Environmental Protection Agency host the March 28 and 29, 2011 State of the Science on Phosphate Mining and the Environmental Conference. Excellent information was presented which helped to initiate the AEIS scoping process.

Methodical Treatment of Alternatives

CHNEP questions the adequacy of the environmental analysis given that the 25 alternatives are not addressed in a consistent fashion. The alternatives are grouped by: "No Action" (1 alternative), "Proposed" (4 alternatives), "Foreseeable" (3 alternatives) and "Potential" (17 alternatives).

We request that each analysis be completed by group on a stepwise basis. No action, then Proposed, then Proposed plus Foreseeable and finally, all alternatives together. It is quite possible that the FAEIS could be referenced for future mining permitting action. Mine effect timing is listed as:

- Alternative 5 South Pasture Extension: 2025-2030
- Alternative 2 Desoto 2030-2040
- Alternative 4 Wingate East 2030-2045
- Alternative 3 Ona 2040-2045
- Alternative 6 Pine Level 2050-2060
- Alternative 7 Pioneer 2060-2070.

Especially, since "Foreseeable" mine alternatives include potential mining after the "Proposed" alternatives are played out and into 2070. Analyzing the "foreseeable" mines individually avoids discussion of cumulative impacts. In addition, this cumulative analysis could help answer the question of when cumulative impacts could overwhelm the natural system.

Preferred Alternative

National Environmental Policy Act (NEPA), 40 CFR 1502.14(e) requires the section of the EIS on alternatives to "identify the agency's preferred alternative if one or more exists, in the draft statement, and identify such alternative in the final statement . . ." No such preferred alternative is cited. Therefore, CHNEP assumes ACOE has no preferred alternative at the DAEIS stage.

Section 1505.2(b) requires that, in cases where an EIS has been prepared, the Record of Decision (ROD) must identify all alternatives that were considered, ". . . specifying the alternative or alternatives which were considered to be environmentally preferable." Through the identification of the environmentally preferable alternative, the decision-maker is clearly faced with a choice between that alternative and others, and must consider whether the decision accords with the Congressionally declared policies of the Act. With sufficient avoidance, minimization and mitigation, it is possible to develop an alternative which is environmentally preferable to "no action."

1.2 Project Purpose and Need (beginning page 1-8)

Project Purpose and Need begins on page 1-8 and ends on 1-16. It includes three purpose and needs statements. The three statements include 1.2.1 Public's Need (page 1-8 to 1-14), Mosaic's Stated Purpose and Need (page 1-15) and CF Industries' Stated Purpose and Need (page 1-16.) The public purpose is not included.

The purpose and need statement is essentially the foundation of the NEPA decision-making process. It provides the rationale and justification for undertaking major federal actions.

Section 1.2 of the DAEIS states: "Pursuant to Title 33, Code of Federal Regulations (CFR), Part 325, Appendix B, while the ACOE generally focuses on the applicant's statement of purpose and need, the ACOE exercises independent judgment in defining the purpose and need both from the applicant's and the public's perspective." However, this judgment has not been exercised, given the three separate statements, especially not stating the public purpose. The three separate statements make it confusing regarding what the purpose and needs statement of the DAEIS is.

During the scoping process, CHNEP recommended "Executive Order 13274 Purpose and Need Work Group Baseline Report," dated March 15, 2005. This document can be found at: www.dot.gov/execorder/13274/workgroups/pnreport031505.pdf. The Purpose should state why the project is being proposed and articulate the positive outcomes that are intended. It should be a very clear, concise description of the primary goals the project is expected to attain (usually no more than one or two paragraphs.) The Need describes the key problem or problems that are being addressed. It is a description of the problems or unsatisfactory conditions that currently exist or are expected with the project area.

Following the purpose and need statement, a section on "desirable" outcomes that are not the central purpose can be identified. **CHNEP requests that a single purpose and needs statement be issued and that the statement be followed by a section on "desirable outcomes."** For CHNEP desirable outcomes are those that help to implement the CCMP and include:

- Improve downstream ambient water quality. Parameters include dissolved oxygen, chlorophyll a, total dissolved solids, pH, sulfate, iron, phosphorus, nitrogen and fecal coliform. We anticipate that one or more of these parameters may improve based on the land use change. If those can be improved and other more challenging parameters are not degraded in the ambient environment, a desirable outcome is met.
- Establish a more natural seasonal variation in freshwater flows for the Peace and Myakka Rivers. Peace River Integrated Modeling Project. Southwest Florida Water Management District Minimum Flows and Levels documentation for the Lower Myakka and Lower Peace can be used to identify natural seasonal variations.
- Improve historic watershed boundaries. CHNEP contracted to develop geographic information systems data to identify historic watershed boundaries. Restoring watershed boundaries can be a component of mitigation.
- Improve to more natural historic conditions, waterbodies that are affected by artificially created structures. This outcome can be completed by minimizing containment in the mining landscape. In addition, mitigation options include removal of artificial structures and restoring old mining containment areas to return flows to natural waterbodies.
- Protect and restore habitats freshwater wetlands, as well as native upland communities vital to the ecological function of the system. This outcome can be implemented with avoidance within the mines with special reference to the Critical Land and Water Identification Project (CLIP) priority 1 and priority 2 areas, as well as the Integrated Habitat Network.
- Create landscape level habitat connections. These connections include major and minor riparian corridors such as the Myakka River, Peace River, Horse Creek, West Fork Horse Creek, Brushy Creek, Lettis Creek, Oak Creek, Hickory Creek, Buzzards Roost Branch, Brandy Branch and other tributary systems. Riparian corridors include riparian wetlands as well as associated uplands such as oak scrub.
- Increase Conservation Lands within the Peace and Myakka River basins. In the past conservation areas were protected under deed restrictions, which have little public enforceability. In recent permits, FDEP has required transfer of easement or title. This applies to avoidance areas, restoration areas and off-site mitigation areas.

Our meetings with representatives of Mosaic and CF Industries, over the years, indicate a shared vision for improving water quality, hydrology and habitats of the Myakka River basin and Peace River basin. The recent settlement which includes Mosaic's purchase and offer of the Peaceful Horse Ranch (Florida Forever Project) to the State of Florida is one example of this vision. A statement of "desirable outcomes" will ensure communication of a vision with the ACOE, phosphate mining companies and the public. Furthermore, these are the issues that help to define "environmentally preferred" alternative.

3.3.1.3 Soil Characteristics of the CFPD (beginning page 3-17)

CHNEP questions the adequacy of the analysis of soil characteristics and potential changes for the alternatives. An overview of soils is provided in Chapter 3 of the DAEIS but no analysis of soils beyond hydric soils for wetland assessment is provided for the alternatives. Chapter 3, page 3-17, states: "In the Peace River Basin, the most predominant soil group is A/D with a total cover of 49 percent. Although these are sandy type soils, they are characterized by having high groundwater levels. Soil hydrologic group A covers approximately 18 percent of the Peace River Basin." Given that the most predominant group of soils for the basin is of high and low permeability, changes as a result of phosphate mining may be expected. CHNEP requests that soil changes as a result of phosphate mining be assessed for the alternatives.

3.3.4.3 Estuarine Aquatic Communities (page 3-107)

CHNEP questions the adequacy of the analysis of estuarine aquatic communities and potential changes for the alternatives. The DAEIS states on page 3-197: "The potential for the 9 effects on estuarine communities to occur as a result of phosphate mining operations is evaluated in 10 Chapter 4." However, this analysis has not been performed. CHNEP requests an analysis of the significant biological/ecological resources of the downstream estuarine aquatic communities, their current status of how the past mining has impacted, the existing mining is impacting and how the proposed mine alternatives are likely to impact them. The analysis should include critical habitat of the small tooth sawfish. We particularly recommend the analysis tools used by the Southwest Florida Water Management District used in the Lower Myakka Minimum Flows and Levels and apply these to the Peace River as well.

4.2.2.1 DWRM2 Analytical Overview (page 4-10)

CHNEP would like to note that it requested the use of integrated groundwater/surface water models for analysis within the AEIS. The CHNEP CCMP emphasizes the need for integrated ground and surface water modeling through action HA-B: "Develop integrated ground and surface water models. Address data gaps based on ecosystem needs and projected needs for water withdrawals due to population growth, development, agriculture and mining." However, we understand that the calibration of the Peace River Integrated Model (PRIM) was completed in 2011, with an addendum in 2012. It may not have been available as a tool at the commencement of the AEIS and DWRM2 may have been the best groundwater modeling tool available at the time. CHNEP requests that a paragraph be devoted to the justification for the use of DWRM2 as a tool.

Chapter 4: Environmental Consequences (beginning page 4-1)
In the following sections of this letter, CHNEP raises questions regarding the adequacy and accuracy of components of this chapter. CHNEP requests that a revised draft be released for review.

4.4 Groundwater Resources (beginning page 4-63)
The CHNEP questions the accuracy of the analysis, comparing "No Action" to the "Proposed" alternatives. Only two "Proposed" mines are analyzed. The other two mines, South Pasture Extension and Wingate East, are expansions of existing mines, South Pasture Mine and Wingate Creek Mine. The DAEIS identified that Water Use Permits would move from the existing mines. Presumably, if "No Action" occurred, the existing Water Use Permits from South Pasture Mine and Wingate Mine will expire at the end of mining if no mine expansions occurred. The estimated end of rock production for Wingate Creek and South Pasture is 2013 and 2025, respectively. Under a "No Action" scenario, the withdrawal for the two mines would cease within the study period (except for a small amount associated with reclamation activities). Therefore CHNEP requests that cumulative groundwater modeling comparing "No Action" and "Proposed" alternatives include reduced mining withdrawals at the appropriate periods for "No Action."

The CHNEP questions the accuracy of the analysis, comparing "Proposed" alternatives to the "Foreseeable" alternatives. The DAEIS assesses "Foreseeable" alternatives was if they have no impact because Water Use Permits would be moved from existing and "Proposed" mines and beneficiation plants. If the "Foreseeable" alternatives were not constructed, the water use would not occur. "Foreseeable" alternatives should be compared to "Proposed" mines within the same period (2025 to 2045) and to "No Action." This would compare "Proposed" to "Foreseeable" as alternative scenarios. In addition, we request an analysis adding the "Foreseeable" mine production after "Proposed.".

Groundwater monitoring well data are available for the surficial aquifer system (SAS), Peace River aquifer, upper/lower Arcadia aquifer, Hawthorn group and Floridan Aquifer System (FAS). In general, Peace River aquifer, upper/lower Arcadia aquifer, Hawthorn group are included in the Intermediate Aquifer System (IAS.) CHNEP requests a presentation of the monitoring well data and a discussion of how the alternatives may or may not affect the water levels within these units.

Figure 3-2 on page 3-12 provides generalized Stratigraphy and Hydrostratigraphy in the CFPD study area.

| System | Series | Lithostratigraphic Unit | Hydrogeologic Unit | Generalized Lithology |
|---|---|---|---|---|
| Quaternary | Pleistocene | undifferentiated sand, shell, and clay | surficial aquifer | Highly variable lithology ranging from unconsolidated sands to clay beds with variable amounts of shell fragments, gravel-sized quartz grains and reworked phosphate |
| Tertiary | Pliocene | Hawthorn Group: Bone Valley Member | intermediate aquifer system and/or intermediate confining unit | Interbedded sands, clays and carbonates with siliciclastic component being dominant and variably mixed; moderate to high phosphate sand/gravel content |
| | Miocene | Hawthorn Group: Peace River Formation | | |
| | | Hawthorn Group: Arcadia Formation | | Arcadia formation is a fine-grained carbonate with low to moderate phosphate and quartz sand, variably dolomitic. Tampa member is a sandy, low phosphate wackestone. Nocatee member is a clayey, carbonate, mud-bearing sand with low amounts of phosphate |
| | | Hawthorn Group: Tampa Member / Nocatee Member | | |
| | Oligocene | Suwannee Limestone | Floridan aquifer system: upper Floridan aquifer | Fine-to-medium grained packstone to grainstone with trace organics and variable dolomite and clay content |
| | Eocene | Ocala Limestone | | Chalky, very fine-to-fine grained wackestone/packstone varying with depth to a biogenic medium-to-coarse packstone grainstone; trace amounts of organic-grained material, clay, and variable amounts of dolomite |
| | | Avon Park Formation | | Fine-grained packstone with variable amounts of organic-rich laminations near top; limestone with dolostone interbeds typical in upper part; deeper beds are continuous dolostone with sulfate near base |

CHNEP questions the adequacy of the analysis which models Floridan aquifer impacts only.

CHNEP questions the adequacy of analysis provided for SAS impacts. Page 3-59 and 3-60 lists a number of way that phosphate mining can impact the SAS, including extensive earthwork, dewatering and changed surficial soils, including addition of clay. The section states that the issue is addressed in Chapter 4. However, no analysis of the alternatives relative to these issues is presented in Chapter 4. The DAEIS is internally inconsistent where analyses are promised and not provided.

CHNEP questions the adequacy of analysis provided for IAS impacts. Analysis relative to the IAS water levels is limited to Page 3-60 and concludes that "within the Polk County area (the IAS) provide conveyance routes between the SAS and the FAS but such features are less frequently encountered to the south within the Peace River watershed." In the area, wells are permitted to use the IAS. CHNEP requests that analysis of impacts of alternative groups to the IAS be conducted given that conveyance route features between the SAS and FAS, through the IAS, are less frequent but present.

CHNEP questions the adequacy of Tables 4-69 and 4-70 (page 4-227 through 4-230). The tables do not cite maximum drawdown and maximum increase modeled for the alternative. CHNEP requests that the tables include modeled maximum drawdown and increase. In addition, CHNEP requests that the tables be ordered so wells that are most relevant are listed first (Upper Peace, Salt Water Intrusion Minimum Aquifer Levels (SWIMAL), then Ridge Lakes).

CHNEP questions the adequacy of the analysis relative potential impacts to existing wells. Existing wells are not identified in the DAEIS, however, water levels and cones of depression (or increase) for each alternative groups should be compared with the depths of existing permitted wells that intersect the cones. CHNEP requests that potentially impacted permitted wells should be identified and enumerated for each alternative set.

4.5 Surface Water Resources (beginning page 4-82)

The CHNEP CCMP includes objective HA-1: "By 2015, identify, establish and maintain a more natural seasonal variation (annual hydrograph) in freshwater flows for [...] Peace River and its tributaries [and the] Myakka River..." Actions including protecting headwater wetlands, restoring floodplains, restoring altered water courses, meeting minimum flows and levels (MFLs) and meeting water budget targets.

CHNEP questions the accuracy of the 4.5.1 Consequences of Alternative 1, No Action, on Surface Water, page 4-82. Given that the capture analysis for other alternative mines demonstrates changes, reclamation of existing lands mined and not yet reclaimed (page 4-191) suggests that between 2000 and 2028, acreage of all past and present mines (25,000 acres) will be reclaimed. Given better flows after reclamation is complete within alternatives analysis (e.g. Figure 4-40 on page 4-91), it is reasonable to assume greater flows once capture areas are reclaimed in past and present mines. CHNEP requests that the "No Action" alternative be assessed with reclamation introduced as shown by 2028.

CHNEP questions the adequacy of projected river flows analysis for the alternatives. Each alternative is assessed separately. However, CHNEP requests that the "No Action" changes, as described in the preceding paragraph, be introduced to the "No Mining" comparison for figures 4-37, 4-38, 4-40, 4-41, 4-43, 4—45, 4-46, 4-48, 4-50, and 4-51 (pages 4-88 through 4-102.) CHNEP also requests that Capture area graphs (Figures 4-36, 4-39, 4-42, 4-44, 4-47 and 4-49) display cumulative capture areas for the alternatives to assist in the cumulative analysis. In addition, CHNEP requests that the cumulative analysis for the alternatives within the Peace River basin be assessed related to surface water flows at the confluence of the Peace River and Horse Creek.

CHNEP questions the accuracy of alternatives analysis conducted under average annual rainfall conditions considering average annual flows. Average rainfall conditions and average flow conditions within the year represent a rare condition when ecological resources are under the least amount of stress. CHNEP requests assessing the cumulative impacts of mines on Peace River, Horse Creek and Big Slough utilizing both the 2003 and 2007 hydrographs, when conditions were at their most extreme within the period of record (see Figure 4-32 on page 4-83 and Figure 4-33 on page 4-84).

CHNEP questions the accuracy of alternatives analysis related to Minimum Flows and Levels (MFLs). Discussion regarding "Cumulative Impacts to MFLs or MFL Target Water Levels" begins on page 4 220. However, this analysis is limited to Minimum Aquifer Levels (MALs) and does not address the MFLs as outlined in table 3-5 on page 3-49. Please note that a draft rule is available for the Lower Myakka River and is expected to be submitted to the Southwest Florida Water Management District Governing Board by August. The Lower Peace River MFL includes a 625 cfs maximum diversion and a low flow threshold of 90cfs. CHNEP requests that alternatives be assessed for the Lower Peace MFLs in a consistent fashion as was assessed for the MALs. CHNEP particularly requests using a 2003 hydrograph, median hydrograph and 2007 hydrograph to assess potential withdrawal impacts by block and any change to the 90 cfs threshold period. CHNEP further requests that all alternatives be quantitatively assessed as requested in the second section of this letter (methodological treatment of alternatives.

CHNEP questions the adequacy of alternatives analysis related to Lower Peace River and Charlotte Harbor salinities. Page 3-45 states: "the AEIS evaluations will ... need to address the potential influence of phosphate mines on river flows in relation to whether any such influences would be of sufficient magnitude to result in ecologically meaningful changes in salinity regimes." No analyses related to effects on salinity in the Lower Peace or Charlotte Harbor are offered. On page 4-238, one paragraph is offered stating "The net effects of the four proposed new mine projects are not predicted to cause significant cumulative effects on downstream flow regimes and are not likely to impact Peace and Myakka River discharge volumes sufficiently to impact salinity regimes in the tidal portions of these rivers leading to Charlotte Harbor Estuary." However, the mines are assessed separately and not cumulatively. Peace River volume changes are shown at the Arcadia gauge, upstream of most of the "Proposed" and "Foreseeable" mine alternatives. CHNEP requests assessment include changes in salinity, especially the isohalines associated with the oligohaline (0.5 to 5 parts per thousand) and in the context of predicted sea level rise.

4.6 Water Quality (beginning page 4-103)

CHNEP questions the adequacy of water quality analysis. CHNEP CCMP includes objective WQ-1: "Maintain or improve water quality from year 2000 levels..." The objective is supplemented by actions related to ground and surface water quality and pollutant loading models and implementing projects to restore and protect water quality.

Chapter 3 (page 3-85) offer links to impairments lists rather than providing them as tables. The first link goes to an EPA search engine. The second link goes to a list of adopted Total Maximum Daily Loads (TMDLs) in Florida. Neither link provides information related to verified impairments in the Peace and Myakka River basins. Impairments within and downstream of the mine alternatives include: Chlorophyll a, dissolved oxygen, fecal coliform, total coliform, iron and mercury. CHNEP requests the document acknowledge existing impairments and potential (numeric nutrient) impairments in the study area and downstream.

Table 4-19 on page 4-109 does not include the Class III Chlorophyll a criteria. In addition, the table includes only mean values. CHNEP requests that Table 4-19 include chlorophyll a standards and proposed numeric nutrient standards (as identified on page 3-92). CHNEP further requests that minimums, maximums and standard deviation be included in Table 4-19. It may be helpful to separate the table into two tables to separate ambient criteria from NPDES discharge criteria. CHNEP also requests that pollutant and hydrologic loads and estimated changes in concentrations be included for all alternative groups.

4.9 Environmental Justice Review (beginning page 4-150)

CHNEP questions the adequacy of the environmental justice review. Screening techniques focus on block group populations of over 50% minority or 20% within poverty intersecting site alternative boundaries. Though that technique is suitable for infrastructure such as roadways to identify potentially affected communities, the impacts of phosphate mining is as much from changes in employment opportunities as physical proximity. Economic strength rankings can be found at www.policom.com/PDFs/2011EconomicStrengthsmallfilesize.pdf.

Wauchula is ranked 542 of 576 micropolitan statistical areas, the lowest in Florida. Arcadia is ranked 479, the second lowest in Florida. A review of http://quickfacts.census.gov/qfd/states/12000.html suggests that Hardee and Desoto have a marked difference in educational attainment compared with Florida as a whole. CHNEP counts all of our activities in Hardee and DeSoto as contributing to environmental justice (EJ) communities. Therefore, CHNEP requests that an analysis of the economies of these two counties be considered as a whole, rather than as the footprint of the mine alternatives.

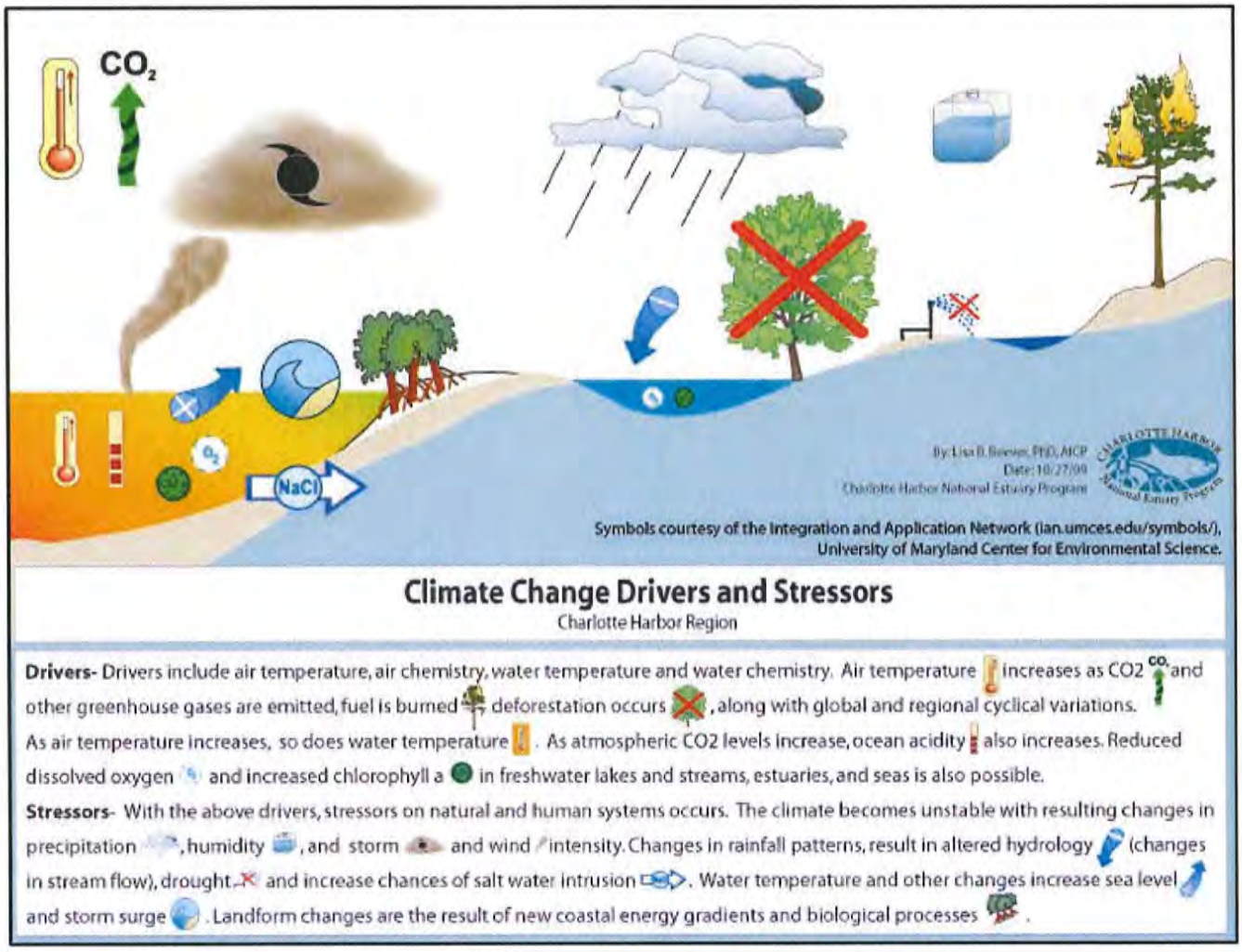
CHNEP requests that EJ analysis be broadened to address health concerns (such as air quality particulate, well water quality, night lighting and noise) and employment of working poor. How will hiring practices change as alternative groups move from agriculture to phosphate mining, especially for the working poor? Such hiring practices should include numbers of jobs and education requirements for agriculture versus phosphate production for the entire process including extraction, processing and transport.

4.11.6 Climate and Sea Level Rise (page 4-165)
CHNEP questions the adequacy of the climate change and sea level rise review. The DAEIS devotes eight lines to the climate and sea level rise. CHNEP has completed extensive review of climate change vulnerabilities that can be found at www.chnep.org/CRE.html. The summary is at:
www.chnep.org/GrantsReceived/CRE/VulnerabilityAssessment2-19-10.pdf.

Climate change drivers include air temperature, air chemistry, water temperature and water chemistry. Climate change stressors include changes to rainfall, storm severity, humidity, drought, wildfires, hydrology, salt water intrusion, sea level rise and geomorphic changes. Changes in many of the drivers and stressors of climate change have been measured within and downstream of the CFPD. These include average air temperature, days per year over 90 degrees F, rainfall delivered in the rainy season sea level rise and evapo-transpiration. Much of the DAEIS analysis relates to these changing
conditions that will be exacerbated by climate change factors. However, past conditions are applied throughout the analysis. Section 4.11.6 is the opportunity to suggest changing condition adjustments to consideration of alternatives.

For example, over the past 100 years, 6 percent of annual rainfall has moved from the dry season to the rainy season, creating wetter rainy seasons and drier dry seasons. Drops in river flow contributions may exacerbate the effects of sea level rise by increasing salinities, pushing species up the system. This may put the DeSoto County bull rush marsh and Peace River/Manasota Water Supply Authority intake at risk.

CHNEP requests a methodical assessment of how each driver and stressor is exacerbated or ameliorated by the phosphate mining and processing alternatives.




5. Mitigation (beginning page 5-1)

CHNEP questions the adequacy of the Chapter 5: Mitigation and requests that a revised draft be released. Chapter 5 should include a presentation of avoidance and minimization techniques for all of the alternative groups. Furthermore, Chapter 5 should follow the federal sequencing of avoidance, minimization and mitigation. The full package of avoidance, minimization and mitigation should be applied to all alternatives evaluated through the DAEIS for comparison to the "No Action" alternative. This may assist the ACOE to declare the "environmentally preferable" alternative.

Avoidance techniques include protecting existing stream riparian systems and uplands vital to the ecological function of the system, CLIP priority 1 and 2 areas and Integrated Habitat Network areas within the mine footprint. Minimization techniques include minimizing containment areas at any given time, protecting offsite SAS water levels, implementing Best Management Practices (BMPs) to treat water quality for constituents of concern, employing ways to moderate changes in surface water flow from the property and restoring stream courses ditched for agriculture.

We understand that a wide array of avoidance and minimization techniques is employed through modern phosphate mining permits and through BMPs. CHNEP requests that these techniques be presented in detail, by each of the primary issues of concern identified in the executive summary, page 3.

CHNEP endorses many of the off-site mitigation approaches provided in chapter 5. We see this as a rich area to implement components of the CCMP, mitigate unavoidable impacts of phosphate mining, mitigate temporary losses of wetlands and results in restoration of water flows, water quality and habitat. Alternatives which restore historic basin boundaries, improve a waterbodies affected by artificial structures, protect freshwater wetlands and upland communities vital to the ecological function of the system, create landscape scale habitat connections and increases acreage of conservation lands in the Peace River and Myakka River basins.

In general, CHNEP favors hydrologic restoration projects because water quality and habitat benefits often result. CHNEP favors mitigation within the basin of impact. However, projects which may be outside of the CFPD but within the River basin of impact may be so important, we would endorse it.

CHNEP particularly endorses the Long Island Marsh restoration, including restoring flows to Shell Creek; restoration of lost headwater wetlands and land conservation through permanent instrument (e.g. conservation easement or title) in Hardee and Desoto. We have forwarded our additional identified restoration needs to representatives of Mosaic and CFI.

Thank you again for the opportunity to participate in the development and review of the DAEIS. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Lisa B. Beever, PhD, AICP
Director

Cc: Stephen R. Sullivan, Branch Chief, South Permits Branch
Donald W. Kinard, Chief, Regulatory Division
John Fellows, Project Manager
Tunis McElwain, Mining Coordinator, Fort Myers Office.

Submission number 394

July 31, 2012

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Draft Areawide EIS on Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

Thank you coming down to present the *Draft Areawide Environmental Impact Statement (DAEIS) on Phosphate Mining in the Central Florida Phosphate District* and allowing us the chance to ask questions and comment. The Sanibel-Captiva Conservation Foundation and its Marine Laboratory has a goal of protecting local waters, and we have concerns about the impact of high phosphorus loadings and alterations in water flow and timing associated with phosphate mining on Charlotte Harbor and the Gulf of Mexico.

The permitting of more phosphate mining in the Charlotte Harbor Watershed is not protective of the estuary and will cause eutrophication problems for decades into the future. A TMDL for Charlotte Harbor that sets a protective nutrient loading level will not be met even if the planned mining does not take place. The average P loading from the Peace River to Charlotte Harbor is approximately 500 metric tons/ year. This is an extremely large nutrient source for estuarine algae and cyanobacteria. This loading is not natural, but is a result of present and past phosphate mining activities in the Peace and its watershed. Increased mining will increase this loading rate. Phosphorus concentrations in the freshwater Peace average much higher than the 90$^{th}$ percentile (740 }AWL) of Florida waters (see figure below) and are greater than concentrations in US rivers with heavily fertilized watersheds.

Iron is another plant nutrient that is discharged in excessive amounts from Peace River to Charlotte Harbor. These nutrients are a source of nutrients supporting excessive phytoplankton and macroalgae blooms in Charlotte Harbor and adjacent waters. Cyanobacteria that fix nitrogen such as *Lyngbya majuscula,* which can overgrow and shade seagrasses, and *Trichodesmium erythraeum,* which can feed red tide *(Karenia brevis)* blooms, are two species that benefit significantly from these nutrients. The 500 metric tons of phosphorus can produce, without recycling, 2,000,000 tons of macroalgae (wet weight) which may end up on our beaches. The effect of nutrients on algal growth is a direct effect and the effect of increased nutrient loadings on Charlotte Harbor and the Gulf of Mexico should be included in the analysis of effects of the phosphate mining expansion.

In addition to eutrophication problems, the already severely reduced dry season water discharge from the Peace River will be further reduced by more mining, which will have a dramatic effect on estuarine species, and will curtail fisheries production.

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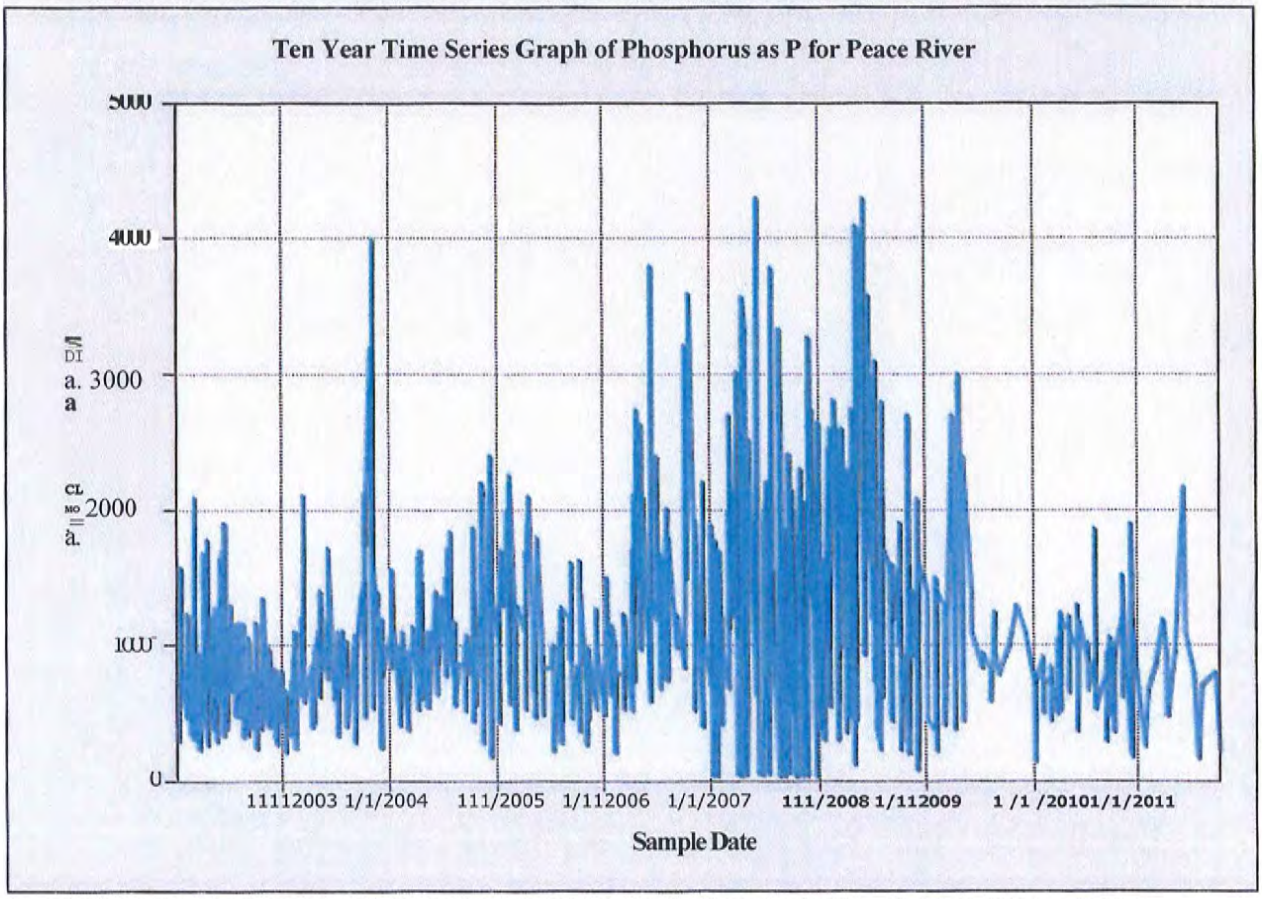
Sanibel-Captiva
Conservation Foundation
Marine Laboratory




Total phosphorus concentrations in Peace River. Polk County NRD, Florida Water Atlas

Thank you for your consideration,

Richard D. Bartleson, Research Scientist, Marine Lab, SCCF

Eric. C. Milbrandt, Dire or, Mari Lab, SCCF

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Submission Postcards (number 395)

395

# I Support Florida Phosphate

My name is Jimmy E Hill

and I reside at 580 of Lakeforest Dr Lakeland FL 33809.

I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District*, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

RECEIVED
JUL 20 2012
Tampa Regulatory Office

☐ I attended one of the public meetings hosted by the Army Corps in June 2012.

Submission number 396


# Southwest Florida Water Management District

2379 Broad Street. Brooksville, Florida 34604-6899 (352) 796-7211 or 1-800-423-1476 (FL only) TDD only: 1-800-231-6103 (FL only) On the Internet at WaterMatters.org

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Bartow, Florida 33830-7700 (863) 5341448 or 1-800-492.7862 (FL only)

**Sarasota Service Office**
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**Tampa Service Office**
7601 Highway 301 North
Tampa, Florida 33637-6759 (813) 985-7481 or 1-800-836-0797 (Fl. only)


July 31, 2012

John Fellows, AEIS Project Manager
10127 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Subject: Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, May 2012

Dear Mr. Fellows:

The staff of the Southwest Florida Water Management District (SWFWMD) has reviewed the Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, May 2012 (AEIS or report). SWFWMD offers the following comments for your consideration:

Specific Comments:

Executive Summary, Page 32, Lines 12 and 13 - Previous SWFWMD analysis has shown that even with the projected decrease in groundwater withdrawals, springflow contributions (i.e., Kissengen Spring) will not return to the Upper Peace River. However, SWFWMD does expect to see some increased contribution of baseflow to the Upper Peace River with the projected decrease in groundwater withdrawals.

Chapter 3, Page 3-36, Line 21 — The Peace River Cumulative Impact Study was funded and managed by the Florida Department of Environmental Protection (FDEP), not SWFWMD. SWFWMD provided technical assistance to FDEP.

Chapter 3, Page 3-50, Table 8-10 — Please confirm that 0 cfs flows in each block are correct.

Chapter 3, Page 3-52, Line 9 — Minimum flows for the Lower Peace River were approved by the SWFWMD Governing Board in May 2010 and are codified in Chapter 40D-8, Florida Administrative Code (F.A.C.).

Chapter 3, Page 3-58, Line 25 — The District suggests rewording text as follows: "where the Intermediate Confining Unit ICU becomes thin and discontinuous in the northern portion of the study area, the Surficial Aquifer System (SAS) may be in direct hydraulic connection with the underlying Floridan Aquifer System (FAS)."

Chapter 3, Page 3-62, Lines 1 through 5 — Please note that the descriptions in the paragraph are "potentials" for upward or downward movement. The degree of such upward or downward movement depends upon the thickness and permeability of the confining units.

Chapter 3, Page 3-63, Line 21 — The District suggests rewording the last portion of this sentence as "downstream of Dover Sink." The addition makes the sentence geographically correct when describing the locations where the effects of sinkholes are less obvious.

Chapter 3, Page 3-63, Line 26 — Please note that Kissengen Spring ceased continuous flow in February 1950. Suggest using H.M. Peek (1951) Florida Geological Survey report to reference cessation of flow from Kissengen Spring.

Chapter 3, Page 3-65, Lines 11 through 16 — The phosphate industry's groundwater use was a major factor in the decline of flow at Kissengen Spring. The phosphate industry continued to be a major user of groundwater, with withdrawals peaking in 1975. However, over the last 30 years, due to increased conservation and surface water storage, the phosphate industry now only withdraws approximately 10% of all groundwater used in the SWUCA. The text appears to draw erroneous conclusions between the statements of the USGS and John Garlanger. Please clarify.

Chapter 3, Page 3-65, Line 30 — Statistical and trend analyses were not used to characterize streamfiow losses to karst features from 2002-2007. The USGS conducted seepage runs along the karst section of the river and physically measured flow losses during selected dry season periods. Please clarify this in the report.

Chapter 3, Page 3-88, Lines 2 through 9 — The Peace River Cumulative Impact Study contained an analysis of phosphate and fluoride concentrations in the Peace River and associated tributaries based on long-term USGS data which indicated declining trends since the 1970s at all stations on the Peace River. It may be helpful if the report references this information as it documents additional historical water quality trends in the area.

Chapter 3, Page 3-95, Lines 17 through 19 — The report references the water quality in the Northern Tampa Bay Water Use Caution Area (NTB WUCA). The NTB WUCA is completely outside the CFPD. SWFWMD publishes a Coastal Groundwater Quality Monitoring Program/Water Use Permit Network Report which would be a good reference source for the discussion pertaining to the water quality in the coastal areas.

Chapter 3, Page 3-141, Lines 5 and 6 — Pursuant to Chapter 40D-2, F.A.C., SWFWMD issues water use permits for all groundwater users whose withdrawals average 100,000 gpd, who withdraw from a 6 inch or greater diameter well, or who have the capacity to pump 1,000,000 gpd. There are also surface water intake pipe constraints and pumping capacity limits for direct surface water withdrawals that require a water use permit. Domestic self supply and household irrigation wells are exempt from water use permitting requirements. Therefore, not all water users require a water use permit.

Chapter 4, Page 4-9, Line 15 — DWRM 2.1 was completed in March 2011. Please clarify whether the DWRM Version 2 or 2.1 was used in the groundwater model analysis. If the DWRM Version 2.1 model was used please reference accordingly.

Chapter 4, Page 4-15, Line 16 — A "hard" cap on groundwater withdrawals does not exist in the SWUCA. It was estimated that groundwater withdrawals would need to be reduced by up to 50 mgd, from about 650 mgd to 600 mgd, in order to meet the minimum aquifer level. If the reductions were optimally distributed the reduction could be less than the 50 mgd. It was anticipated that the reduction could be achieved through activities such as conservation, retirement of permitted quantities, and land use transitions (SWUCA Recovery Strategy, p. 47).

Chapter 4, Page 4-15, Line 18 — The SWUCA recovery strategy does not "call" for reductions in agricultural water use. It recognizes that, based on the demand projections at the time the strategy was developed, agricultural lands were transitioning to urban uses and that the water use

associated with those activities could be retired and/or converted to public supply uses. The transition of land uses from agricultural to urban has slowed as a result of the economic recession.

Chapter 4, Page 4-23, Lines 8 through 15 — The assumption that no water is discharged from NPDES permits as stormwater during active mining may yield unrealistically higher streamflow impacts than what occurs under actual mining conditions. The District suggests that considering historical discharges under similarly-sized mining activities may be a more accurate reflection of streamflow impacts.

Chapter 4, Page 4-71 Table 4-17 — It is unclear how the simulated change in the SWIMAL numbers were calculated. The values do not appear to correlate with the individual changes for each well. Please clarify.

Chapter 4, Page 4-72. Figure 4-25 — The Romp 87 well is located in the Green Swamp, outside of the CFPD. This well was used by Professional Water Resources to show the difference in response from an area with a leaky semi-confined Upper Floridan aquifer to typical well-confined UFA conditions further south in the SWUCA.

Chapter 4, Page 4-63, Lines 27 through 32 and Chapter 4, Page 4-82, Lines 6 through 8 - Throughout the report, net benefit" is treated as a universally required permit condition. The SWUCA Recovery Strategy identifies "net benefit" as a narrowly-prescribed option that only applies to permit applications for new quantities that affect an MFL water body already below its minimum (SWUCA Recovery Strategy, p. 117).

Chapter 4, Page 4-193, Lines 4 through 20 — The report should emphasize that in most of the CFPD the UFA is well-confined except for the small section of the upper Peace River and the extreme northern portion.

Chapter 4, Page 4-197, Line 23 through 25 — Section 373.042, Florida Statutes is related to withdrawal impacts only and not land use changes.

Chapter 4, Page 4-207, Lines 30 through 34 — Please note that for modeling purposes, the USACOE treats a 50 mgd reduction in agricultural water use quantities as a compliance target. The 50 mgd reduction contemplated in the SWUCA Recovery Strategy is more accurately characterized as a worst-case scenario goal. In fact, this quantity has "been expressed as 'up to 50 mgd' because if groundwater withdrawals were optimally distributed throughout the SWUCA, withdrawals could be reduced by less than this amount to achieve the minimum aquifer level" (SWUCA Recovery Strategy, p. 47).

Appendix D — Please clarify whether DWRM Version 2.0 or 2.1 was used in the model and reference accordingly.

Appendix D, Figure 7 — The model's constant head boundaries are appropriate for the Gulf of Mexico boundary but not the other three sides of the model grid where they should be no flow boundaries. It is unclear how this boundary condition influences the scenario results. Please clarify.

Appendix D, Page 14 Line 14 — The text explains that only 9 out of the 10 wells used to calculate the SWIMAL were included in the analysis because one of the wells was not within the model domain. From the wells listed in Table 3, it looks like ROMP TR8-1 is the missing well. Based on

visual comparison of maps showing the location of this well with the model domain shown in Figure 7, this well does appear to be located within the model domain. However, similar to ROMP TR 9-3 and possibly ROMP TR 10-2, the well does appear to be close to the boundary which could affect the reliability of model results. Please explain why the model boundary was located as shown in Figure 7 and to what extent the model results at these wells are being affected by the boundary.

General Comments:

Reference is made to a regulatory cap of 600 mgd beyond 2025 as part of the SWUCA Recovery Strategy. SWFWMD has a recovery strategy goal of a net reduction of 50 mgd from the Upper Floridan aquifer by 2025, but there is no regulatory cap on withdrawal quantities. Also, there are no "SWFWMD-imposed cutbacks on agricultural withdrawals" in the SWUCA. These two items factored into the groundwater modeling simulations discussed in Appendix D.

Thank you for the opportunity to comment on the AEIS. The District reserves any further comments pending responses to the comments provided above. If you have any questions, please call me at the District's Tampa Service Office at (813) 985-7481, extension 2014.

Sincerely,

Damn W. Herbst, P.G.
Bureau Chief
Water Use Permit Bureau
Regulation Division

Cc: Robert Beltran, P.E.
Alba Más, P.E.
Amy Brennan, Esq.
Rand Frahm
Laura Donaldson, Esq.

Submission number 397

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
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61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

7/30/2012

Donald W. Kinard
Chief, Regulatory Division
Jacksonville District
U.S. Army Corps of Engineers
P. 0. Box 4970
Jacksonville, FL 32232-0019

Subject: **EPA's Comments on the Draft Areawide Environmental Impact Statement (DAEIS) for the Central Florida Phosphate District, located in Charlotte, DeSoto, Hardee, Lee, Manatee, Polk, and Sarasota Counties, Florida EIS Filed Date: 05/22/2012; CEQ Federal Register Date: 06/01/2012 CEQ Number: 20120165; ERP Number: COE-E67007-FL**

Dear Mr. Kinard:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the Draft Areawide Environmental Impact Statement (DAEIS) on Phosphate Mining in the Central Florida Phosphate District (CFPD) developed by the U.S. Army Corps of Engineers (USACE), Jacksonville District, using a third-party contracting process as described in 40 CFR 1506.5. EPA understands that this NEPA process was "triggered" (initiated) because the USACE has received four applications for Department of the Army permits under Section 404 of the Clean Water Act (CWA) from Mosaic Fertilizer, LLC and CF Industries, Inc. (the Applicants) for four proposed phosphate mining projects in the CFPD (referred to locally as the "Bone Valley"). The specific projects currently being reviewed by the USACE (including their Department of the Army permit application numbers) are: Mosaic's Desoto Mine (SAJ-2011-01968), Mosaic's Ona Mine (SAJ-2010-03680), Mosaic's Wingate East extension of the Wingate Creek Mine (SAJ-2009-03221), and CF Industries' South Pasture Mine Extension (SAJ-1993-01395). EPA notes that the DAEIS appropriately focuses not only on the affected environment within the boundaries of the CFPD, an area of approximately 1.32 million acres (+/- 2,100 square miles) in Hardee, Hillsborough, Manatee, Polk, Sarasota and Desoto counties, but also analyzes affected areas outside the CFPD, including the Peace, Myakka, Manatee, and Little Manatee River watersheds which are downstream of the CFPD, as well as affected portions of counties outside of the CFPD, including areas in Charlotte and Lee Counties.

EPA notes that the USACE has determined that "when viewed collectively, the separate proposed phosphate mining related projects have similarities that provide a basis for evaluating their environmental consequences together in one comprehensive environmental impact statement." As part of the permit review process, the USACE is evaluating the environmental effects of these similar actions. The primary Federal involvement associated with the proposed actions is the discharge of dredged or fill material into "Waters of the United States," including

jurisdictional wetlands. Issuance of federal authorizations for the proposed activities would constitute a "major federal action."

EPA previously received your letter (dated September 14, 2010) offering our agency, as well as the Florida Department of Environmental Protection (FDEP), an opportunity to become a "Cooperating Agency" to the USACE in the development of this AEIS for phosphate mining in the CFPD. Your request letter stated that this AEIS was intended to satisfy the requirements of the National Environmental Policy Act (NEPA) (Title 40 of the Code of Federal Regulations, part 1501.6), NEPA (42 U.S.C. 432 1 et seq.), Council for Environmental Quality (CEQ) Regulations (40 C.F.R. Parts 1500-1508), and the NEPA Implementation Procedures for the Regulatory Program (Appendix B to 33 C.F.R. Part 325). You also noted that the AEIS was proposed to fully consider a range of environmental, and socio-economic issues, with the USACE's responsibilities as the lead Federal agency for this AEIS defined in 40 CFR 1501.5, and EPA's responsibilities as Cooperating Agency outlined in 40 CFR 1501.6. EPA understands that this AEIS serves dual purposes, both as a Regulatory EIS for the four specific mine applications, as well as a holistic areawide mining environmental impact study. EPA accepted the USACE offer to serve as a Cooperating Agency in our letter sent to you on October 14, 2010, and we note that FDEP accepted on January 25, 2011. EPA also notes that over 20 municipal and county governments in the region have since agreed to become Participating Agencies to the USACE on the AEIS.

EPA supports the development of an AEIS for the CFPD, with a goal of bringing together local, state, federal, and industry partners involved in phosphate mining in the Bone Valley and developing a comprehensive EIS that fully analyzes the secondary and cumulative impacts of phosphate mining. EPA therefore concurred with the USACE retaining an EIS contractor (utilizing the 3rd Party NEPA process) to develop this AEIS, and we appreciate the USACE making development of this important AEIS a high priority. We worked with USACE on an aggressive schedule that yielded a comprehensive DAEIS in less than 18 months from the date of the publication of the Notice of Intent (NOI) in the Federal Register on February 18, 2011. The DAEIS appropriately evaluates the existing environmental conditions and potential future multi-media impacts associated with phosphate mining, and we have therefore involved a number of programs within our region and at EPA Headquarters to assist in this on-going process.

**EPA offers the following specific comments and recommendations on relevant sections of the DAEIS:**

**1. DAEIS Cooperating and Participating Agencies**

EPA notes that one of the primary goals of NEPA is to encourage meaningful public input and multi-agency involvement in the process of evaluating the environmental impacts of proposed federal actions, in this case the consideration of issuance of Department of the Army permits under Section 404 of the Clean Water Act (CWA). To this end, the President's Council on Environmental Quality (CEQ), which oversees NEPA nationally, has developed regulations that require agencies to make diligent efforts to involve the public and local, state, and other federal agencies in the NEPA process. The CEQ regulations call for agencies to actively identify

parties that might be interested in a proposed federal action, and to give notice to the public through a variety of media such as the Federal Register, local newspapers, or direct mailing.

**EPA Recommendation:** The USACE has actively identified parties that might be interested in a proposed federal action, and we commend the USACE for utilizing both Cooperating and Participating Agencies in the development of this AEIS. EPA recommends that the USACE continue working closely with both the Cooperating and Participating Agencies in completing the NEPA process.

## 2. DAEIS Purpose and Need

Pursuant to Title 33, Code of Federal Regulations (CFR), Part 325, Appendix B, the USACE appropriately considered the Applicants' statements of purpose and need for additional phosphate mining, but also considered the purpose and need from the public's perspective. The Applicants generally stated (for each of the proposed mines) that their purpose is "to maximize extraction of phosphate ore from the known mineral reserves located within a practicable pumping distance" from the various ore separation and beneficiation plants and "to maintain production capabilities of existing beneficiation facilities at optimum production levels." The Applicants also indicated their desire to "economically extend the life of mining facilities and beneficiation plants for as long as practicable by mining all commercially available phosphate reserves."

In order to guide its evaluation of the proposed project, both for purposes of NEPA and the AEIS, and the USACE's evaluation of the associated applications for permits under Section 404 of the CWA pursuant to the Section 404(b) (1) guidelines (40 CFR 230) and the public interest review, the USACE appropriately considered the purpose and need "in terms of a basic project purpose and an overall project purpose." The overall project purpose, as defined by the USACE, forms the basis for the USACE's evaluation of reasonable alternatives under NEPA. EPA notes the USACE's basic project purpose for each of the four similar actions under review in this AEIS is "to extract phosphate ore, and the overall project purpose is to extract phosphate ore from the mineral reserves located in the CFPD and to construct the associated infrastructure required to extract and process the phosphate ore at separation/beneficiation facilities recognizing that the ore extracted must be within a practicable distance to a new or existing beneficiation plant."

EPA concurs with the USACE's objectives of the AEIS to analyze the direct, indirect, and cumulative impacts/effects associated with the four similar permit applications for mining of phosphate within the CFPD, including those indirect and cumulative impacts that extend to areas outside of the CFPD. EPA also concurs with the USACE's goal to describe and assess the "no-action" alternative and other reasonable alternatives to the four similar proposed mining projects for which CWA permits are sought. Finally, EPA concurs with the USACE's "over-arching goal" of this AEIS "to inform agencies, other stakeholders, and the public of the impacts and alternatives to the four similar permit applications for phosphate mines."

**EPA Recommendation:** The Final AEIS (FAEIS) should be sufficiently thorough and detailed enough to fully support the USACE regulatory decisions regarding the four specific proposed

mine projects, as well having an additional capacity to inform USACE regulatory decisions regarding future phosphate mining permit applications.

3. DAEIS Process

EPA notes that, in accordance with Title 40, Code of Federal Regulations (40 CFR), Part 1501.7, the USACE complied with the requirement for an early and open NEPA process for determining the scope of issues to be addressed and for identifying significant issues related to the proposed action. As mentioned previously, the Notice of Intent (NOI) for the AEIS was published in the Federal Register on February 18, 2011. The formal scoping period ran from February 18, 2011 through April 30, 2011, and two public scoping meetings were held with a combined total of over 1000 persons in attendance: one on March 23, 2011, at The Lakeland Center in Lakeland, Florida, and one on March 25, 2011, at the Charlotte Harbor Event Center in Punta Gorda, Florida. The Cooperating Agencies, EPA and FDEP, both provided staff that spoke at these meetings along with USACE and 3rd Party Contractor speakers. The USACE received more than 5,000 comments contained in approximately 3,000 submissions from agencies, other stakeholder groups, and individual members of the public during the scoping period. EPA reviewed many of these comments, and noted that they covered a wide range of topics.

EPA notes that the USACE has received comments on the DAEIS that cover many of the same topics addressed during scoping. Among the most frequently mentioned are issues pertaining to the potential loss of wetlands and required mitigation, effects of phosphate mining on groundwater quality and levels (particularly the effects on the Floridan aquifer), adverse impacts to the Peace and Myakka Rivers and their tributaries, and maintaining and improving surface water quality in the Charlotte Harbor estuary. Also, many comments have been received concerning jobs and the regional economic importance of phosphate mining.

EPA Recommendation: The DAEIS notes that the USACE plans to respond to written comments received from the public during finalization of the FAEIS, which currently is projected to occur during the fall of 2012. EPA concurs, and we recommend that the FAEIS include a detailed "responsiveness summary" that presents and addresses all of the public and agency comments that have been submitted.

4. DAEIS Alternatives Analysis

EPA notes that USACE's "NEPA implementing regulations" appropriately require consideration of a range of reasonable alternatives, including a "no action" alternative and the Applicants' preferred alternatives. EPA notes that the process for identifying alternatives to be considered under this DAEIS, in addition to the "no action" and the Applicants' proposed alternatives, applied two assumptions:

- The alternatives must be located over the CFPD geological formations where economically-mineable reserves of phosphate are likely to be located.

- The alternatives must either be located within 10 miles of an existing beneficiation plant that would be able to process the materials excavated at the alternative mine, or a new beneficiation plant would be required as an element of the alternative.

EPA notes that the DAEIS appropriately featured a screening of alternatives that included the using of publicly-available geographic information system (GIS) databases and geospatial analytical methods. EPA also concurs with the methodology used:

- The DAEIS included a preliminary screening of lands within the CFPD that included the identification of features that would preclude some lands from being considered as candidate areas for future mining (such as already mined lands, lands developed as urban areas, publicly owned lands designated for inclusion in parks or other preserved areas, etc).
- The DAEIS defined, using reasonable assumptions, a minimum parcel size and minimum overall mining areas that would be reasonable for "stand alone" mines.
- The DAEIS included a review of county and local ordinances that might preclude mine siting or mining operations.
- The DAEIS defined, using reasonable assumptions, the environmental characteristics which would likely increase the difficulty of mining implementation (primarily because of elevated risks of environmental impact).
- The DAEIS included a complete screening of candidate alternative locations by comparing environmental conditions, with the selection of a reasonable subset of the candidate alternatives for more detailed analysis.

EPA notes that the DAEIS appropriately considered a "no action" alternative that assumed no new mining projects would be approved during the 50-year planning horizon analyzed (through 2060). As required under NEPA, the DAEIS also considered the Applicants' Preferred Alternatives (Alternatives 2 through 5) as described in the respective permit applications, as well as all foreseeable mines (Alternatives 6 through 8).
Finally, the DAEIS included an additional 17 areas that were identified and defined as "offsite alternatives" warranting more detailed analysis following the preliminary and secondary screening of candidate mining locations in the CFPD (Alternatives 9 to 25).

**EPA Recommendation:** In the Overall Project Purpose discussion, the FAEIS should include additional justification on the "practicable distance," which the DAEIS defines as the distance between the ore extraction area and a new or existing beneficiation plant. EPA notes that by allowing only a slightly greater distance than the **10-mile** distance used for mine site planning in the DAEIS (such as a 12-mile distance), additional flexibility would be possible in mine plan configurations, including the potential for fewer beneficiation facilities required.

5. **DAEIS Use of GIS for Ecological Analysis**

As required by NEPA, the DAEIS analyzed ecologic resources that were considered "most likely to be affected" by the proposed mines or their alternatives. These resources included "herbaceous and forested wetlands, intermittent and perennial streams, and associated aquatic resource habitats." Analysis of potential direct mining impacts to these resources

appropriately utilized the latest geographic information system (GIS)-based tools developed by the State of Florida that provided a means for estimating the relative quality of wildlife habitats. These were the Integrated Wildlife Habitat Ranking System "IWHRS," developed by the Florida Fish and Wildlife Conservation Commission (FFWCC), and the Critical Lands and Waters Identification Project "CLIP" system, developed through a collaborative effort between the Florida Natural Areas Inventory (FNAI), the University of Florida, and the FFWCC. These GIS systems allow for rapid assessment of the ecological quality of a given parcel of land within the State of Florida, and this ecological screening of potential for impacts on natural resources was conducted for all of the 24 alternatives (not used for the "no action"). EPA notes that the IWHRS ranks wildlife habitat value on a scale from 0 to 10, while the CLIP looks at terrestrial and waters issues. The IWHRS uses a wide variety of landcover and wildlife data, while CLIP follows a combined approach of layering and assessing items. EPA also notes that the land use coverage used to support this AEIS was the 2009 SWFWMD "Florida Land Use, Cover, and Forms Classification System."

**EPA Recommendation:** EPA concurs with the use of the IWHRS and CLIP tools, but recognizes that they are composed of different data layers and use different datasets, and therefore could produce a substantially different outcomes for a given site. EPA recommends that the FAEIS include additional information on the relative merits/differences of both systems, such as how the Aggregated CLIP reflects a greater variety of ecological resources than the IWHRS, and how the Aggregated CLIP scores give more weight to the presence of surface waters, floodplains, and wetlands than does the IWHRS. EPA concurs with using both tools to provide "additional perspective for the AEIS review in its evaluation of the alternatives."

### 6. DAEIS Analysis of Wetlands and Mitigation

EPA notes that, in accordance with NEPA, the DAEIS appropriately evaluated direct and secondary impacts on wetlands systems and considered employment of buffers, setbacks, and greenways at perennial and intermittent streams. The DAEIS appropriately included a number of detailed summary tables of a range of ecological impacts that were identified for each alternative during the study. These include:

- Table ES-2, "Summary of Wetland and Stream Impacts of the Applicants' Proposed Alternatives"
- Table ES-3, "Wetland Land Uses at Alternatives 6, 7, and 8"
- Table ES-4, "Wetland Land Uses For Other Offsite Alternatives"
- Table ES-5, "Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet around Priority 1 and 2 Areas"
- Table ES-6, "Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet from Perennial Streams"
- Table ES-7, " Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet from Perennial and Intermittent Streams"
- Table ES-8, "Effects of Setback to Avoid Peace River "Greenway" System"
- Table ES-9, "Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet around High Value Wetlands Identified in the Applications"

- Table ES-10, "Effects of Conceptual Buffers from All Perennial Streams Identified in the Applications"
- Table ES-11, "Effects of Conceptual Buffers from All Perennial and Intermittent Streams Identified in the Applications"

Because of their cumulatively high degree of ecological function performed, including endangered and sensitive species habitat, groundwater recharge, water quantity provided to agricultural and municipal users, and water quality benefits to the downstream waters (including the Charlotte Harbor estuary), EPA considers many of the wetlands located in the proposed mining sites to be Aquatic Resources of National Importance (ARNI). Accordingly, this status as ARNI is indicated in the comment letter by EPA on the four USACE Public Notices that are the subject of this DAEIS that will be issued separately (by the Region 4 Wetlands, Coastal, & Oceans Branch) from this DAEIS comment letter.

EPA Recommendations: EPA concurs with the content in Chapter 5 of the AEIS that points out that wetland enhancement, restoration, establishment (creation), and/or preservation projects could serve, in appropriate combination of activities, to offset unavoidable wetland impacts for the proposed phosphate mining, when such mitigation projects are conducted in accordance with the USACE and EPA policies and procedures described in the joint 2008 Mitigation Rule. EPA notes that the DAEIS analyzed wetland mitigation and compensatory mitigation in a broad procedural sense, but we recommend additional, site-specific analyses be performed for the FAEIS as noted below. The ecological benefits of a mitigation project should compensate for the functional loss resulting from the permitted wetland impact. Compensatory mitigation activities may include, but are not limited to, onsite mitigation, offsite mitigation, offsite regional mitigation, and the purchase of mitigation credits from permitted mitigation banks. Specific comments are as follows.

- As mentioned previously in our comment on the Alternatives Analysis, the threshold of practicability is given in the DAEIS as 10-miles, and EPA recommends that use of this distance (versus use of a longer distance) be better justified in the FAEIS.

- For the proposed Mosaic Ona mine, the mine plan or configuration as proposed appears separated from the additional and contiguous Mosaic property to the south, also anticipated as a phosphate mine in the future and analyzed in the AEIS. EPA recommends that the Ona Mine site and the large Mosaic property to the south be planned concurrently, considering that a larger contiguous planning area would allow more options and opportunities for avoidance of wetland and other environmental impacts and compensatory mitigation.

- The DAEIS mentions a proposed permit duration of 45 years for the Ona mine, as well as similarly long times for the other mines. EPA notes that such a long duration can involve substantial risk for increases in environmental impacts over time as technical, biological, climatic, economic, and legal conditions will probably change over such a long period. In recognition of this high risk and uncertainty associated with a long permit duration, EPA recommends that a shorter permit duration be considered, with the entire proposed mine area potentially covered as sequential individual permits instead of a single long

permit. EPA also recommends permit conditions that require periodic interagency reviews of mining and mitigation activities at least every 5 years, as well as annual or semi-annual substantive reporting of mining and mitigation activities, with a corrective action plan or adaptive management plan included in the same reports when warranted.

- The project and mine configurations to be included in the FAEIS should demonstrate a greater degree of wetland impact avoidance and minimization, and should be substantively reviewed and discussed further in close consultation with EPA and the Applicants.

- Compensatory mitigation options, likely as mitigation banks, consistent with the USACE and EPA joint 2008 Mitigation Rule, should be reviewed and discussed further in the FAEIS. Conceptual off-site wetland restoration opportunities already have been identified in the Peace River watershed and discussed with EPA several times since mid 2011. Typical wetland mitigation opportunities for a substantial gain in wetland function could involve rehydration of drained wetlands on current agricultural lands, removal or alteration of levees or dikes to restore floodplain functions, blockage of drainage ditches, removal of historic fill material, and other field methods.

- The FAEIS should include better justification for the adopting the Florida UMAM wetland functional assessment method instead of the older and largely obsolete WRAP method. The reduced mitigation value of preserved, but not necessarily restored or enhanced, wetlands also should be determined early in the review and discussion process. In addition, the temporal loss of wetland functions should be incorporated into the overall compensatory mitigation planning, likely resulting in a mitigation project with more than a one-to-one final ratio to compensate for the temporal loss and uncertainty associated with successful wetland and stream restoration following surface mining operations. The FAEIS should discuss a new mitigation bank (or banks) that could be established even if the permit applicant(s) is/are the only bank customer. Under the Federal mitigation banking process, an independent organization should manage the mitigation bank(s) as a first priority, and a separate bank could serve the Myakka River and Peace River as distinct watersheds, in recognition that watersheds at that scale(e.g., 8-digit HUC codes or hydrologic units) are the broadest scale under the 2008 Mitigation Rule.

## 7. DAEIS Analysis of River Flows and Runoff

The DAEIS appropriately looked at impacts on critical portions of the seven major rivers that drain lands within the CFPD: Withlacoochee River, Hillsborough River, Alafia River, Little Manatee River, Manatee River, Myakka River, and the Peace River. The DAEIS notes that of the four currently proposed new mines, three are primarily located within the Peace River watershed and one is located in the uppermost portion of the Myakka River watershed, and many of the other alternatives are also in these two watersheds. The DAEIS identified future rainfall as the critical "driver" most impacting the water balance of any study area in Florida, as "it directly affects both the surface and groundwater resources of the AEIS study area."

EPA notes that Applicants generally propose to develop mine footprints inside a ditch and berm system containing the mine's recirculation system. Thus, the mining area is to be designed to be "taken out of a given watershed's surface water contributions to the watershed's water budget except as allowed through discharges from the permitted National Pollutant Discharge Elimination System (NPDES) outfalls." As portions of the mine are reclaimed and ultimately released from within the recirculation system, the total mine capture area is proposed "to be returned to the pre-mining condition, and its impact on the watershed's water budget reduced over this time period." EPA recommends that the applicants coordinate permitting of these outfalls with EPA Region 4's Water Protection Division, Municipal and Industrial NPDES Section.

The DAEIS appropriately featured a detailed hydrologic analysis of potential decreases in surface water flows to downstream reaches of Horse Creek, the subwatershed in the Peace River that would be the most affected by development of the currently proposed Desoto, Ona, and South Pasture Extension Mines, and also the Pioneer foreseeable future mine project. Rainfall "capture" areas were estimated by evaluating the mine plans in terms of acreages scheduled to be mined over the life of each mine, and changes in land use and soil types were projected and used to calculate land use-based runoff coefficients which supported calculation of runoff quantities under annual average rainfall conditions at 10-year increments through 2060. The DAEIS quantified the differences between subwatershed runoff projections with and without the individual mines in place over the duration of the planning horizon. The DAEIS also notes that "because each mine's area is large, when viewed from a local standpoint, the expectation might be that the difference in runoff might be large, but when viewed from a watershed perspective, these areas are modest. The calculated differences in runoff delivered through the Horse Creek watershed were small."

The evaluations of the potential effects of two of the foreseeable future mine projects (the Pine Level/Keys and the Pioneer prospective mine projects) were also conducted using conceptual mine plans for these two alternatives that were generated based upon information and assumptions drawn from review of the mine plans for the Desoto, Ona, Wingate East, and South Pasture Extension permit applications.

**EPA Recommendation:** The FAEIS should include any additional hydrologic analyses that document potential decreases in surface water flows to downstream reaches of waterbodies that could be affected by development of the currently proposed mines or the foreseeable future mines.

### 8. DAEIS Analysis of Potential Impacts to the Floridan Aquifer

The DAEIS appropriately assessed the potential of the proposed mining to affect the water quality of surface waters draining off of, or downstream from, mined or reclaimed lands. The DAEIS also found that CFPD groundwater resources include three aquifers, two of which are most at risk of being influenced by phosphate mining: the Surficial Aquifer System and Floridan Aquifer System. The DAEIS found that in the southern areas of the CFPD, where the intermediate aquifer system is well developed, "the potential for water quality effects to penetrate to the Floridan is low." EPA is concerned, though, that this is not the case in the

northern portions of the CFPD, where a well defined intermediate confining unit/intermediate aquifer system is not present. The DAEIS found that "surficial aquifer communication with the upper Floridan aquifer can occur" in the northern portions of the CFPD.

Groundwater modeling using a model derived from SWFWMD's District Wide Regulatory Model (DWRM) was conducted to project the relative influence of the two proposed new mines (Desoto and Ona) on the Floridan Aquifer System. Modeling of the other two individual projects was not performed because those are extensions of existing mines; no new Floridan Aquifer water allocations are involved in their operations. Modeling of other alternatives' potential effects on the Floridan Aquifer was not performed, but effects are projected based on interpretation of the above evaluations.

**EPA Recommendation:** EPA Region 4 is currently reviewing the modeling efforts, and our Ground Water and Safe Drinking Water Enforcement Section will be providing technical input and assistance for the preparation of the FAEIS.

### 9. DAEIS Analysis of Discharge Monitoring History/Surface Water Quality

As part of the preparation of the DAEIS, a detailed review was appropriately conducted of historical mining discharge monitoring records in this area. These records indicated that surface water discharge from mines occurs but "not typically on a continuous basis." Surface water discharges from mines are intermittent, as mining companies maximize retention of rainfall for recirculation system use. Discharges generally occur when the system's capacity is exceeded, typically due to heavy rainfall and runoff. Mine discharge monitoring results "confirmed that selected parameters are elevated in mine discharges compared to ambient background levels" -- including elevated phosphorus, dissolved solids, conductivity, and sulfate. Additionally, a number of water body segments within the AEIS study area are included on the State's impaired waters list. However, when the selected outfalls, were averaged over the long term (five years), the discharges generally did not exceed relevant criteria levels, as summarized in DAEIS Table ES-12.

Biological monitoring downstream of active mine sites hasn't shown, "...a clear cause and effect relationships between mine discharges and biological responses..." EPA will continue our on-going assessment of the downstream effects of all mining activities even after the FAEIS is published. Evaluation of each downstream water body's compliance with the EPA-approved water quality standards is outlined in Florida's assessment methodology at Chapter 62-303, FAC. As required by the Clean Water Act (CWA), FDEP must report to EPA every two years regarding surface water body "use attainment" in its CWA 305(b) report and CWA 303(d) list of impaired waters. FDEP will identify to EPA any waterbodies which have a "water quality impairment" for the designated use. For each of the impaired waters, EPA will require that a Total Maximum Daily Load (TMDL) be developed for each particular pollutant that is not meeting the designated water quality standard. TMDL daily loads will be set as the pollutant limits for the water body, and will necessitate the creation of a "Basin Management Action Plans" (BMAPs) to lower any excessive pollutant loads and return the water body to a state of compliance with its designated use.

EPA Recommendation: EPA has promulgated, with future effective dates, numeric nutrient criteria for Florida's inland surface waters, and will propose numeric nutrient criteria for coastal waters in November of 2012. Site specific values in the surface water quality database indicate that these ranges may be exceeded at some sites. FDEP has also now adopted numeric nutrient criteria, including for marine waters such as Tampa Bay and Charlotte Harbor, and if approved by EPA, these will become the effective standards for CWA purposes for the waters to which they apply. The Final AEIS should be updated to reflect any future approvals of nutrient criteria.

**10. DAEIS Economics Analysis**

EPA's National Center for Environmental Economics (NCEE) conducted a thorough review of the economics analysis in the DAEIS and provided the following technical comments for consideration by the USACE. The NCEE reviewers note that the DAEIS examined the economic impacts from planned phosphate mining in the Central Florida area, and appropriately examined the predicted changes in economic activity in an 8 county region, including five counties in the CFPD and three adjacent counties. The NCEE reviewers also note that the DAEIS featured an analysis that reports changes in the value of output, labor income, and value added, as well as changes in employment, and utilizes the IMPLAN economic impact assessment software system for the majority of its calculations. EPA notes that the IMPLAN software "is currently used by hundreds of government agencies, colleges and universities, non-profit organizations, corporations, and business development and community planning organizations."

EPA Recommendations: Overall, the NCEE reviewers have suggested improvements for the FAEIS, including providing more documentation to support certain assumptions, better citation of sources, and consideration of the use of a higher discount rate. The reviewers noted that the discount rate has one of the largest impacts on the analysis, as a lower discount rate has the potential to inflate certain values. Additionally, the reviewers suggested that, in addition to the "with" and "without" mining alternatives, the FAEIS should consider scenarios which incorporate additional mitigation and conservation actions. Specific comments are as follows.

- The analysis uses a 2.0% discount rate as given as OMB Circular A-94, but this rate may not be appropriate for an analysis of phosphate mining. OMB's updated Circular A-4 recommends the use of both a 3% and 7% discount rate for benefit cost analysis. In order to appropriately calculate the net present value (NPV) of the economic impacts of phosphate mining, both 3% and 7%, presented alongside each other, is recommended.

- A 50-year time horizon was chosen for the analysis. More discussion should be included in the FAEIS on the use of a 50-year time horizon, particularly since there are clearly positive and negative economic impacts of these projects that carry beyond the 50-year time horizon. For instance, from years 41-50 there are still mining activities projected to be occurring in the Pioneer and Pine Levels/Key Extension mines. If reclamation is assumed to take 8 years (another assumption discussed below), then these activities will take place beyond the chosen horizon.

- The analysis calculates the projected property tax revenues to local governments. Instead of attempting to forecast these figures from available data, past data from the mining

- companies are used. The FAEIS should consider the inclusion of adjustments for future land uses, even though these projections play a large role in other parts of the DAEIS. The NCEE reviewers note that there is no temporal component to the property taxes (they are constant over all years), and these assumptions could significantly bias the projections.

- Even though the other areas of the DAEIS contain relatively detailed information on phosphate deposits at each mine, this analysis assumes an average value of 7.10 tonnes (metric tons) per acre for all mines. The FAEIS could easily be made more accurate for each mine based on existing information.

- Two assumptions in the DAEIS directly impact the results of the analysis and should be better supported by citations. First, the analysis assumes that reclamation is complete in 8 years, which should be better supported (for example, with peer reviewed literature). If not supported with peer reviewed literature, the analysis needs to use a better approach based on past data. The analysis also assumes that pasture is improved after reclamation. This also needs to be properly supported by data and citations.

We appreciate the opportunity to serve as a Cooperating Agency to USACE and to provide comments on this DAEIS. Based upon our review, EPA Region 4 has assigned this DAEIS a rating of EC-2, meaning we have requested additional information on several important areas, as explained above, including: 10-mile threshold of practicable pumping distance; permit durations; better wetlands impact avoidance and minimization strategies; compensatory mitigation; and improvements to some other areas of the document. Please include us in any notifications of future interagency meetings, and please forward a copy of the FAEIS when it becomes available. If you wish to discuss EPA's comments, please contact us at 404/562-9611 (mueller.heinz@epa.gov) or at 404/562-9330 (cox.williamL@epa.gov). Finally, as discussed previously, in accordance with our 404(q) process EPA will also be notifying the USACE by separate letter that the four mining projects may result in significant impacts to Aquatic Resources of National Importance (ARNIs).

Sincerely,

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Wetlands, Coastal, & Oceans Branch
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Submission Postcards
(numbers 398 through 429)

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# I Support Florida Phosphate

My name is Lucy Terrill,
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I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District,* and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

☐ I attended one of the public meetings hosted by the Army Corps in June 2012.

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Submission number 430

# United States Department of the Interior

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10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Draft Areawide EIS (DAEIS) on Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

The U.S. Geological Survey Florida Water Science Center (FLWSC) appreciates the opportunity to review and comment on the *Draft Areawide Environmental Impact Statement (DAEIS) on Phosphate Mining in the Central Florida Phosphate District*. The FLWSC-Tampa office primarily reviewed Chapter 3 (Affected Environment) and Chapter 4 (Environmental Consequences), and comments being provided capture the reviews conducted by Terrie Lee, Patty Metz, Kim Haag, and Arturo Torres.

Again, thanks for the opportunity to participate in the review of the DAEIS. Hope our comments improve the technical contents of the draft report. If you have any questions or need additional information, please contact me (aetorres@usgs.gov) at 813-498-5025 or Terrie Lee (tmlee@usgs.gov) at 813-498-5030.

Cordially,

*Arturo Torres*

Arturo E. Torres
Chief, Hydrologic Investigations Section
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Tampa, Florida, 33612

# TECHNICAL COMMENTS

**USGS Florida Water Science Center**
(Terrie Lee, Patty Metz, Kim Haag, and Arturo Torres)

## General

**1. The Draft Areawide Environmental Impact Statement (DAEIS) lacks a coherent organization, which makes it difficult to say with confidence what the cumulative impacts of the proposed mining could be.** Chapter 3 presents some of the literature that might be used to support deductions made in Chapter 4 -Environmental Consequences. In Chapter 4, however, the DAEIS doesn't provide a parallel development of arguments regarding cumulative effects of phosphate mining within the four main issues of concerns, provides no discussions of uncertainty, and relies too frequently on unsupported statements and suppositions. It lacks a linear progression of supported arguments that could lead to a conclusion. Although some of the conclusions about cumulative impacts to surface and groundwater cite results, those results rely heavily on analyses performed by CH2MHill for the AEIS instead of previously published investigations. Background material appears repeatedly in sections that should describe results. Where conclusions should be presented, the approach is restated, or else the issues being considered are restated. Conclusions that are not referenced to published results are presented at crucial places in the scientific argument and resemble opinion statements instead of substantiated findings. An exception is Section 4.7 ECONOMIC RESOURCES, where results and conclusions are presented and drawn in clear declarative statements and summary tables are used to compare alternative scenarios. The evidence may be disputed, but at least it is plainly presented. Economic impacts are not environmental impacts, however, and are not parallel to wetlands, wildlife, streams, and groundwater. This material should be moved to a separate section in the report.

Other sections of **Chapter 4** would benefit from clear declarative sentences, supported by quantitative results from citable references, to summarize the current evidence of cumulative environmental impacts of phosphate mining.

The following examples are a few of the many statements that are not based on logical arguments.
p. 4-191 Table 4-66
"Substantive increased areal coverage of wetland cover categories in the year 2009 for both the Myakka and Peace River watersheds when compared with the corresponding estimates for 1990 and 1999 *are not readily explained, but it is possible that at least some of this increase may be associated with more intensive reclamation or habitat creation as mitigation for wetland losses within the subject basins.*"

p. 4-204
*"Stream habitat loss also will be temporary and located in the same vicinity as other habitat loss. However, the post-reclamation landscape will include more miles of created natural first and second order streams than currently exist, thereby mitigating, in part, a significant historical impact identified in the PRCIS."*

p. 4-205
*"Based on this, the cumulative effects of the four proposed mines, the two reasonably foreseeable mines, the alternatives, and other actions on aquatic resources and upland habitat are expected to be insignificant.*"

2. **State and Federal agencies could cost-effectively and directly improve the understanding of mining impacts to Florida waters by documenting long-term streamflow in tributary basins and headwaters regions that have been and eventually will become affected by mining activities.** Long-term USGS streamflow data was relied on repeatedly in this DAEIS and in the related reports cited in the DAEIS. It is used extensively by the mining industry and regulatory agencies to predict and regulate the impacts of phosphate mining in the Central Florida Phosphate District (CFPD) on streams, wetlands, and groundwater. All of the steamflow gages described in this DAEIS are operated by USGS and are jointly funded by Southwest Florida Water Management District through the USGS Federal-State Cooperative Water Program. Yet few of these streamflow gaging sites are in optimal locations for quantifying the effects of phosphate mining on streamflow. Most reflect the effect of a number of different types of land uses on streamflow (e.g., see the effect of numerous land uses on gaged flows in Appendix E).

The scale and permanence of the land alteration resulting from phosphate mining is greater than many other activities of regulatory concerns of the State for which publicly-funded streamflow monitoring is considered a priority. The DAEIS results indicate that less is known about streamflow (the volume of flow) from mined areas than is required to understand the "runoff capture" from mines, wetland connectivity, or the differences in the baseflow/runoff responses of the reclaimed mine tract from those that existed prior to mining. Streamflow data are used to compute runoff coefficients, such as those that had to be inferred in this AEIS, Appendix E. Streamflow data is environmental monitoring that intersects the mission areas of all of the agencies involved and would provide the phosphate-mining industry, public, and numerous stakeholders with a crucially important line of evidence for making future decisions.

3. **The impacts from the four proposed mines are described in ways that are subjectively scale dependent and therefore not comparable.** The spatial frame of reference used to argue cause and effect in the DAEIS is not comparable for all of the issues of concern. In many cases, the frame of reference is too large to be instructive, and diminishes the apparent impact. The cumulative impacts of the four proposed mines are largest if seen from the context of the mined properties themselves, and smallest if viewed from the frame of reference of the entire CFPD, or the combined areas (or flows) of the Peace and Myakka River basins (see table below- constructed from numbers found throughout the DAEIS and converted to square miles). The DAEIS does not adequately and clearly state what the spatial scale for defining impacts is in the Introduction. The scale for considering impacts for each of the issues of concern should be defined and applied consistently throughout the report. For example, the DAEIS EXECUTIVE SUMMARY states that the predicted cumulative impact of the four proposed mines on streamflow is a small percentage of the total inflows to Charlotte Harbor Estuary, which has a contributing area of 3,000 square miles. But, is this the preferred scale at which to look for significant impacts from mining? What changes in streamflow occur in streams on the mined tracts themselves? Effects on streamflows (wetland acreage, stream lengths, habitat acreage, etc.) should be quantified and compared with expected streamflows (wetland acreage, stream lengths, habitat acreage) at a variety of relevant spatial scales.

**Table 1.**

| Feature of interest | Area, in square miles | Annual Average Daily Streamflow, in cubic feet per second |
|---|---|---|
| Southern Water Use Caution Area (SWUCA) | 5,100 | |
| Peace River watershed | 2,350 | |
| Myakka River watershed | 550 | |
| Charlotte Harbor Estuary watershed | 3,000 | |
| Central Florida Phosphate District (CFPD) | 2,100 | |
| Total historically and currently mined area in CFPD | 500 | |
| Clay settling areas only | 150 | |
| Horse Creek subbasin to Peace River watershed | 218 | 200 |
| Proposed and Future mine tracts in Horse Creek subbasin[1] | 112 | |
| Three Proposed mine tracts in Horse Creek watershed | 73 | |
| Largest capture/runoff area removed from Horse Creek by proposed mines only (year 2040) | 32 | -27 |

[1]Historic and current mine areas not included
Future mine tract (Pioneer) is 39 sq mi.

## Streams

**4. The inability to explicitly quantify flows from mined tracts and smaller regions of subbasins with the currently available data makes it difficult to forecast the cumulative effects of past and future mining on streamflow.** The USGS streamflow gages referred to in the DAEIS are far downstream of mined areas and so cannot provide optimal information on the effects of mining on streamflow. Understanding cumulative impacts of mining requires a scientific estimation of the impacts from individual mine tracts and then a quantitative summation of those data – not a qualitative description of impacts that have to become large enough to be seen at a downstream location where streamflows have been historically gaged. Currently, we cannot do this. Because the current gaging sites monitor flows from large areas (hundreds of square miles), other land uses in these comparatively large watersheds – especially irrigation return-flow from agricultural areas –confound the interpretation of mining effects on streamflow. The total drainage basins being gaged (i.e. monitored for streamflow) are much larger than the individual mined areas. Streamflows at the downstream end of these larger watersheds can be comparatively large, so even small measurement errors in the flow rates can lead to large relative uncertainties in any flows that are computed by difference, such as the runoff contribution from 20-40 square mile mining tracts (see Chapter 3 p. 3-35, lines 13-21 for related discussion in the DAEIS). But being a small flow relative to these larger gaged flows (or even indiscernible in contrast to large standard deviations around measured flows) is an artifact of where the current gages are located, not of the importance of impacts to mined areas themselves. In addition, the natural variability around annual mean flows is large, making it necessary to have long periods of record and large impacts to establish statistically-significant trends in flow. Long-term streamflows at the gaging stations being used show both, historical upward trends (Horse Creek near Arcadia, 1970-2004) and downward trends (Peace River at Arcadia, 1935-2004) for the 10, 50, and 90$^{th}$ percentile flows. Increases in low flows (P90 flows) are associated with runoff of agricultural irrigation water (FDEP, 2007). Gaging

flows from smaller regions of subbasins that encompass mined areas would lead to more definitive conclusions about mining effects on median daily flows, peak flows, depression storage of runoff in wetlands, and baseflow contributions to streams from the surficial aquifer.

**5. The DAEIS does not adequately represent the cumulative impacts of the proposed mines at the scale of the subbasins in the Peace and Myakka River watersheds, especially Horse Creek Subbasin.** According to the EXECUTIVE SUMMARY p. 26 lines 1-4, most of the proposed mining impacts described in the DAEIS occur in the Horse Creek subbasin of the Peace River Watershed. Yet there are no maps showing the Horse Creek subbasin in the Executive Summary, or in Chapters 1 or 2. The subbasin first appears on a map in Chapter 3, Figure 3-14 on page count 211, when Horse Creek becomes the focus of a streamflow analysis.

We suggest that the Horse Creek subbasin also be the focus of analysis of groundwater pumping effects and wetland, stream, and habitat losses. Wetland hydrology, streamflow, and groundwater levels are all interdependent when considered at the subbasin scale (Lee and others, 2010). Thus, the alterations due to mining should focus on this scale throughout DAEIS. The outline of the Horse Creek subbasin should be included in additional maps throughout the report. We could not find, for instance, a map that shows the boundaries for each of the mining categories (1. Historic; 2. Existing; 3. Proposed; and 4. Future) on a map that also shows the Horse Creek subbasin. However, it seems that these mine areas taken together will exceed 50% of the subbasin area (refer back to Table 1 in these comments). Horse Creek is one of six principle tributary subbasins for the Peace River watershed. The subbasin scale has been used to understand cumulative environmental changes to the Peace River watershed in numerous earlier studies (e.g., FDEP, 2007; Metz 2009; Lee and others 2010).

**6. Capture Area Projections used to understand the cumulative streamflow reductions from four proposed mines also should accumulate the captured areas on historic and existing mine tracts**. This comment is related to comments 4 and 11. Estimates of captured flows on current and historically mined areas should be validated by long-term measurements of actual streamflow.

**7. The DAEIS does not adequately address the effects of clay settling areas (CSA) on the surface and groundwater hydrology of reclaimed mined areas.** Water quality aspects are reported (e.g, p. 4-118-123) with respect to their importance as avian habitat. However, little is reported on hydrology. The capture area analyses (Appendix E) makes assumptions about the time frame for reconnecting CSA acreage entirely back into the watershed, but no measured results are reported on previously reclaimed CSAs. How accurate are these assumptions? No references are cited to verify the current hydrologic function of the 234 existing clay settling areas that make up 150 square miles or one-third of the CFPD. The influence of CSAs on the local hydrology or how they, collectively, contribute to the area-wide surface and groundwater hydrology of the Central Florida Phosphate District is not reported. The AEIS should include a synthesis of the existing understanding of the effect of CSAs on groundwater and streamflow contributions in the Central Florida Phosphate District to inform decisions about proposed and future mining on cumulative impacts.

**8. Annual average values of streamflow are used in the DAEIS but changes in the seasonally highest and lowest (percentile) flows are needed to understand impacts from mining.** Measured and predicted changes in the median, highest, and lowest percentile flow rates, and not average rates, are typically used to identify changes to streamflow, as was done in Peace

River Cumulative Impact Study 2007 (FDEP 2007). The majority of the proposed mined areas (3 out 4) are in the Peace River watershed, which is used as a municipal water supply supplement for southwestern Florida. The increased probability of reduced low flows during the dry season is important to current and future downstream water users. In the surface water resource section of the DAEIS (Chap. 4), an analysis was conducted to determine annual average flow from the Horse Creek watershed during average rainfall conditions during the mining process. This analysis would benefit from including a dry season analysis to project the effects of the proposed changes when flows are lowest and most critical ecologically. Dry season forecasting would show how this reduced streamflow in the Horse Creek subbasin influences the Peace River during the dry season. To understand the impacts from mining, it would be more useful if the analysis was conducted using monthly average streamflows.

**9. The Runoff Calculation Method (Appendix E) is not a scientifically rigorous approach for predicting runoff.** No physical processes (wetland depression storage, infiltration, evaporation, streamflows, etc.) are represented in the analysis. The approach is more correctly considered a linear regression analysis, with coefficients adjusted by hand that correlate measured streamflow with yearly acreages of different soil types in the basin and yearly total rainfall. The method's strength is its ability to reflect different land uses over time. The method's shortcoming is that approximately 100 coefficients are applied to these different landuse/soil types (Appendix E - Tables 3 and 4) that are then used in the regression equation. These coefficients represent a large number of "tuning factors" that cannot be separately calibrated or correlated to physical processes. As a result, the solution is not unique; that is, the coefficients could assume numerous other values and still produce acceptable streamflows. For this reason, the final equation will have limited accuracy for predicting streamflow at another location. Sensitivity analyses and validation are needed. For example, how sensitive are the flows predicted using this equation to changes in any of these coefficients? How well does the equation developed for the USGS streamflow gage Horse Creek near Arcadia (Station # 02297310) predict long-term streamflow at a nearby site - Horse Creek nr Myakka Head (02297155)?

## Wetlands

**10. Misleading language and descriptive statistics are used to quantify wetland impacts in the Executive Summary and elsewhere in the report.** Instead of 16 to 21 percent, from 50 to 80 percent of the original wetland acreage on mined properties will be impacted.

> ES.6 ENVIRONMENTAL CONSEQUENCES, p 15 lines 4-7: "*Although no mine plans have been submitted by any applicant for these alternatives, current mining approaches for planning, construction, and reclamation of mine sites can be assumed to be similar to what is proposed for* ***percentage of impacts for the four proposed alternatives which range from 16 to 21 percent of wetland impacts***".
>
> ***p15, lines 8-9:*** *The potential acreages of impact would be on the order of 16 to 21 percent of the indicated figures".*
>
> ***p. 16, lines 8-9:*** *"As for the foreseeable future alternatives, the estimated acreages of* ***potential impact would range between 16 and 21 percent of the indicated figures".***

The phrases above taken from the report are misleading with respect to these two numbers.

However, it would be correct to say that, based on estimates from the 4 proposed mines, "from 16 to 21 percent of the *total mine property* will eventually become impacted wetlands." How these percentages are calculated is not shown, but they can be derived using 2 columns in Table ES-2, page 15: "Acres of Wetlands Proposed to be Affected" and "Total Area of the Tract".

The 50 to 80 percent wetland impacts can be calculated as follows. Before mining begins, around 25 to 35 percent of the "Total Area of the Tract" is unaffected wetlands (Table ES-3: divide Total Wetland (acres) by Total Site (acres). This is consistent with Statewide estimates; freshwater wetlands constitute 26 percent of the land cover in Florida (Haag and Lee, 2011)). After mining, 16 to 21% of the land area of the tract becomes impacted wetland. Therefore, from the perspective of impacts to wetlands, 46 to 84 % of the wetlands on mine tracts are impacted - so roughly 50 to 80 percent of the wetlands on a given mine tract will be impacted by mining.

**11. The DAEIS does not provide adequate data from actual mitigation and reclamation efforts to demonstrate the mining industry's current ability to meet the permitted targets for stream and wetland mitigation.** These results are needed to inform conclusions about cumulative impacts from mining in the Central Florida Phosphate District (CFPD). References to previously published or completed mitigation and reclamation data are lacking and would strengthen the contentions of the Applicant and FDEP that proposed targets are achievable. The AEIS presents only the Applicant's *targets* for wetland and stream reclamation for the 4 proposed mines, as contained in the Applicant's Section 404 permit applications (p. 5-18 through 5.-20). *"As indicated in the tables, each Applicant proposes to reclaim more wetland area and stream length than currently exist at the mine sites"*. For scientific credibility, however, what also is needed in Chapter 5: MITIGATION is an analysis of previously proposed targets in Applicant permits that have been met in the field at other mining sites, namely, restoration of wetland area and stream length during specified time periods. Without an objective summary of field performance data to date for these reclamation targets, the estimates given in the permit applications cannot be evaluated, and so may or may not be achievable over a realistic timeline. A concerted effort has been made to mitigate losses to streams and wetlands. The degree to which these targets are met should be reported.

**12. The DAEIS provides no field-performance data on the level of hydrologic function that can be expected of reclaimed streams and wetlands that are in the mitigation targets.** A synthesis of the findings from field observations of flows and water levels, and analyses of the post-reclamation hydrology of mining tracts, are needed in the AEIS to assess the cumulative impacts from mining on the hydrologic function of streams and wetlands in the CFPD.

**13. The DAEIS does not address the cumulative impacts of the proposed mines on wetland hydrologic connectivity, or the intermittent streamflows between headwater wetlands and intermittent streams that convey flow to larger tributaries.** On p. 3-108 the AEIS states, *"Phosphate mine projects within the Central Florida Phosphate District (CFPD) would affect wetlands and surface water systems within the footprint of the proposed mines unless these natural systems are included in the "no mining" areas addressed during mine plan development."* Although this is correct, it is a simplification, because in addition the wetlands and streams down gradient of the footprint of the proposed mines will also be affected, and this is never stated in the DAEIS. Headwater wetlands and first-order streams connect uplands and riparian systems with river systems longitudinally, laterally, and vertically. Cumulative alteration of headwater wetlands and streams affects river function at larger scales, affecting downstream hydrology, water quality, biota, and geomorphic processes. The potential for those impacts should be documented with baseline data in order to quantify this potential loss, and also to substantiate restoration after

reclamation.

**14. The Conceptual Buffer analysis for wetlands uses unrealistically large buffer widths (greater than a quarter of a mile, half a mile, and a mile in width) that would be impossible to implement and are inconsistent with regulations in other jurisdictions.** The proposed alternatives suggested by the conceptual buffer analysis would result in huge areas being excluded from mining and vast deposits of rock rendered unmined. The derivation of these buffer widths (1,500 ft; 3,000 ft; 6.000 ft) is **undocumented** and appears arbitrary. For example, Hillsborough County has proposed wetland buffer widths of 50-100 ft around wetlands in the county. A revised buffer analysis using a more realistic and well documented range of buffer widths would be useful, instructive, and could provide a permit modification that would provide setbacks allowing the Applicants to mine in an economically viable way while protecting many wetland functions.

## Groundwater

**15. The DAEIS does not address the cumulative impact of mining on groundwater flow in the surficial aquifer system, particularly in historically mined and reclaimed areas.** What is the impact of mining on the groundwater in the surficial aquifer? The groundwater model DWRM2 was used to report annual average drawdown in the levels of the Upper Floridan aquifer (UFA) due to the four proposed mines. However, the DAEIS provides no discussion on impacts to the surficial aquifer nor the intermediate aquifer as the DWRM2 model is unable to simulate impacts to these aquifers, much less to simulate surface water/groundwater interactions in the Central Florida Phosphate District (CFPD) area. In our opinion, the Peace River Integrated Model (PRIM) is a better groundwater modeling tool and it should have been used to appropriately simulate the surface water/groundwater interactions in the Central Florida Phosphate District area. Several studies (Garlanger, 1982; Lewelling and Wylie, 1993; Schreuder, 2006) discuss baseflow and streamflow conditions, but these studies have conflicting results. Groundwater flow in the surficial aquifer is an important source of baseflow to streams, and high water-table elevations in the surficial aquifer system are needed to keep wetlands hydrated. Streamflow measurements are needed to quantify the baseflow contribution to streams on reclaimed lands. In general, baseflow is derived from the infiltration of rainfall to the surficial aquifer, and it contributes the majority of streamflow in Peace River tributaries. For example, baseflow contributes about two-thirds of the flow in the Charlie Creek tributary to Peace River over the long term average (Lee and others, 2010). The condition of the surficial aquifer in the hundreds of square miles of reclaimed mined areas will affect streamflows from these tracts of land for the foreseeable future.

**16. The groundwater model DWRM2 is used to report annual average drawdown in the groundwater levels of the UFA due to the four proposed mines. For completeness, the AEIS also should report the impacts of the seasonally lowest simulated groundwater levels caused by pumping**. The annual average drawdown is a hypothetical condition that averages out the seasonal extremes in pumping effects. The largest drawdowns due to pumping occur in the spring/dry season are associated with most of the notable environmental impacts (sinkhole formation, dry wells, and water losses from streams). The amount of groundwater pumped from the Upper Florida aquifer for mining operations varies seasonally and annually with rainfall (see Fig. 4-31 on page 4-80). This seasonal pumping compounds the natural seasonal groundwater fluctuations during the wet and dry seasons, which is further compounded by agricultural irrigation pumping. As a result, ROMP Wells 31 and 40 show 20 to 40 ft seasonal fluctuations in Upper Floridan aquifer levels due to mining plus agricultural pumping (eg., Figs. 4-25 through 4-27). Varying levels of drawdown from current phosphate mine pumping extends across much of the

CFPD (see simulated head recovery without pumping from mines, Appendix D, Figure 16). Drawdown affects areas where the Upper Florida aquifer is both poorly confined and well-confined. Much of the effect of the proposed mining will be in western Hardee County where the potentiometric surface of the Upper Florida aquifer in the dry season (May) already is at low levels, and will move into western De Soto County (see Figure 1 below). The DAEIS indicates that Agricultural pumping will be reduced by 8%, from 650 to 600 mgd. However, this reduced amount is spread over the 5,100 square mile SWUCA, and will not offset the concentrated effects of pumping for mining in western Hardee and DeSoto Counties. The AEIS should consider the superposition of these seasonal effects on the existing potentiometric surface in western Hardee County which already displays severe drawdown impacts in the dry season, particularly during drought years.

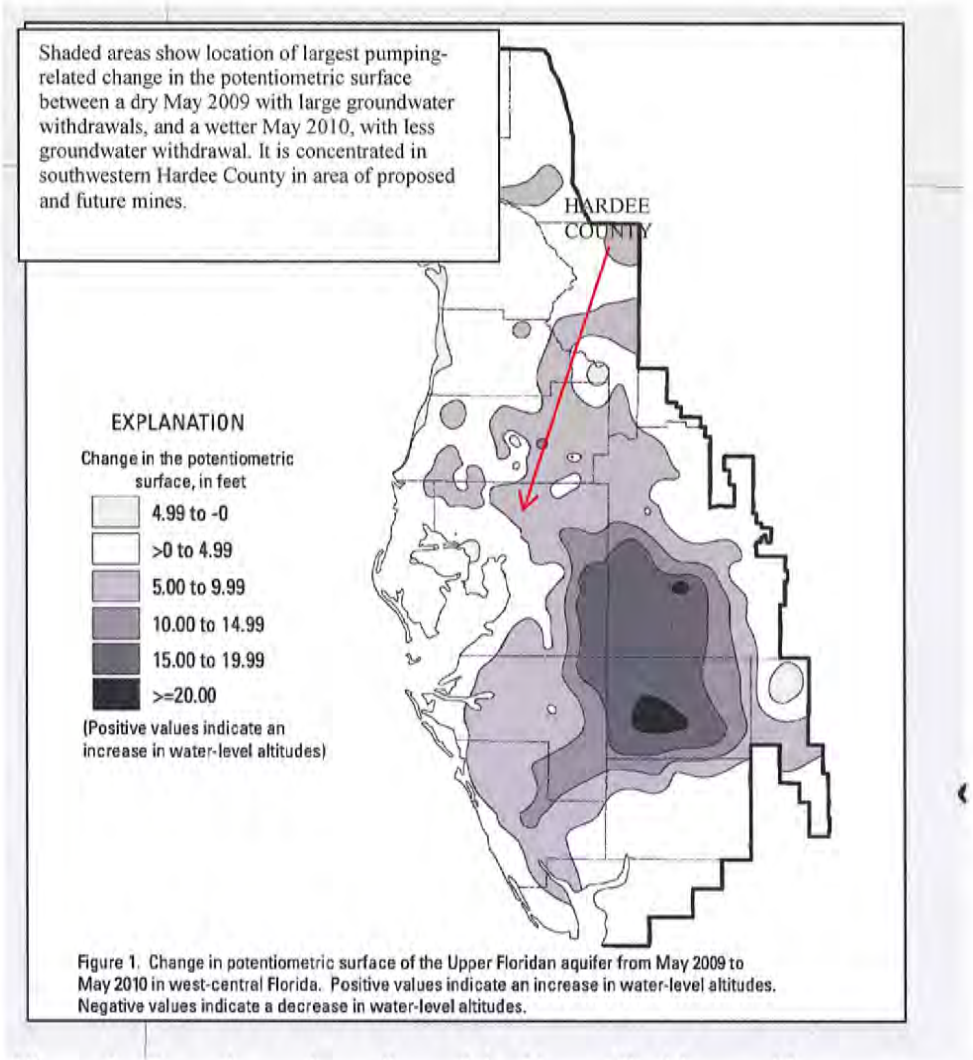


Figure 1. Potentiometric surface of the Upper Floridan aquifer, west-central Florida, May 2010, US Geological Survey Scientific Investigations Map 3139, 1 sheet. (Ortiz, A.G, 2011)

## References


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Haag, K.H., and Lee, T.M., 2010, Hydrology and Ecology of Freshwater Wetlands in Central Florida – A primer, U.S. Geological Survey Circular 1342, 138 p.

Lee, T.M., Sacks, L.A., and Hughes, J.D., 2010, Effects of groundwater levels and headwater wetlands on streamflow in the Charlie Creek basin, Peace River watershed, west-central Florida, U.S. Geological Survey Scientific Investigation Report 2010-5189, 77p. http://pubs.usgs.gov/sir/2010/5189/

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Submission number 431

NATIONAL CORN GROWERS ASSOCIATION

July 31, 2012

Army Corps of Engineers Draft AEIS
Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

**Re: Comments on Draft Area-wide Environmental Impact Statement (AEIS), Phosphate Mining**

Dear Corps of Engineers:

The National Corn Growers Association (NCGA) appreciates the opportunity to provide comments on the Corps of Engineers' draft Area-wide Environmental Impact Statement (AEIS) on phosphate mining permits in Florida.

NCGA is the largest trade association of corn growers in the United States and represents 37,000 dues-paying corn farmers nationwide and the interests of more than 300,000 growers who contribute through corn check-off programs in their states. NCGA is the voice for the corn growers' concerns in national legislative, judicial and regulatory agencies' decisions affecting agriculture. Our members live and farm in 47 states.

NCGA has a great interest in these permits because phosphate is one of the primary nutrients essential for plant growth and crop production. It is a non-renewable resource that must be mined from nature as phosphate minerals – we cannot manufacture it. The bulk of the phosphate mined - about 90% - is used to produce phosphate fertilizers.

Our members rely upon fertilizers to maintain and improve agricultural productivity. Over the past several decades corn growers have developed new farming methods that allow for significant reductions in inputs such as pesticides and fertilizers, dramatically decreases erosion, all while increasing yields. In fact, the amount of land needed to produce one bushel of corn is down by over one-third in the last several decades.

We urge the Corps to continue to present a well-balanced picture of the Florida phosphate mining industry and its role in the nation's economy. This includes consideration of the uses of mined phosphate to produce the fertilizer on which our nation depends.

In that regard, we commend the Corps for recognizing the importance and unique nature of phosphate. As you consider the pending phosphate mining permits and their potential impacts, it is critical to remind the public, as noted in the draft AEIS (Section 1.2.1.1), of the need for phosphate:

> Phosphorus is an essential nutrient needed to sustain plant and animal life, and there is no substitute for it. Plants absorb phosphorus, in the form of phosphate, from the soil and convert it to forms that can in turn be absorbed by people and animals. With respect to agriculture, replenishment of phosphate in the soil by the application of fertilizers enhances crop yields.

It is equally important to recognize the significant differences to the American consumer, including agriculture, between domestically mined phosphate and other sources of phosphate rock. Domestic mining provides stable and reliable phosphate. It is better to safely extract this phosphate than to become dependent on sources from less stable parts of the world. The draft AEIS notes this (Section 1.2.1):

> Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world. The political security of 18 these supplies is lacking, with disruptions a common occurrence (Lifton, 2011).

This is an important issue because the major international sources of phosphate are Morroco and China. We recommend that the Corps assure that the public fully understands that in the absence of domestic phosphate production, "this essential nutrient needed to sustain plant and animal life" may not be available to American agriculture, or may be available only at significantly higher costs.

NCGA appreciates the work of the Corps to use scientifically based analysis to prepare the draft AEIS. Using this approach to the National Environmental Policy Act (NEPA), the Corps can efficiently and effectively address the environmental effects of phosphate mining in a comprehensive manner. This use of NEPA should allow processing of phosphate mining permit applications in a timely and orderly manner, so that domestic phosphate production, needed for fertilizer production, can continue without delays.

We are pleased that the Corps has set and is keeping to a schedule for this AEIS. The Corps has shown that it can "do right" by both our economy and our environment with a well-organized NEPA document that addresses all issues related to phosphate mining. We urge the Corps to maintain this sensible approach and not delay completion of the final AEIS.

Domestically produced fertilizer, which starts with phosphate mining, is essential to our crop production. We recommend that the Corps not only complete the AEIS on time, but also promptly to issue the phosphate mining permits that are covered by the AEIS.

NCGA appreciates the opportunity to submit these comments and would welcome the opportunity to discuss them in more detail with the Corps.

Sincerely,

Garry Niemeyer

Garry Niemeyer President
National Corn Growers Association

Submission Postcards
(numbers 432 through 541)

432

# I Support Florida Phosphate

My name is SANDRA HAGAN,
and I reside at 1029 MONROE ST
CAKLAND FL 33801.

I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District,* and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

☐ I attended one of the public meetings hosted by the Army Corps in June 2012. – UNABLE DUE TO WORK

RECEIVED
JUL 20 2012
Tampa Regulatory Office

Submission Number 542
(Attachments Available)

-----Original Message-----
From: Marvin Medintz [mailto:medintzm@yahoo.com]
Sent: Wednesday, July 25, 2012 10:41 AM
To: Fellows, John P SAJ; Steve Gong
Cc: Powell, Duncan EPA@SAD; Able, Tony EPA@SAD; David Pritchett; Jennifer Derby; gagliano.paul@epa.gov; walsh.patrick@epa.gov; massey.matt@epa.gov
Subject: Environmental Group Comments on Draft AEIS

Good morning. I am attaching comments on the Draft AEIS for the Central Florida Phosphate District which are filed on behalf of ManaSota-88, People for Protecting Peace River (3PR), Protect Our Watersheds (POW) and the Florida Chapter of the Sierra Club.

Hard copies of the Comments, with attached exhibits were also sent today by priority mail, to John Fellows and Steve Gong.

Thank you for your attention.

Percy Angelo
269 849-2855

Classification: UNCLASSIFIED
Caveats: NONE

**Table of Contents and Exhibits to Comments of Environmental and Community Groups on the DAEIS**

The Environmental Groups have provided extensive comments and exhibits to aid the scoping process. They include letters of April 20 and 25, 2011 and Percy Angelo's letters and emails of April 13, 19 and 24, 2011. It is understood that these documents and exhibits are already in your record.

The exhibits listed below are in addition to those already supplied in scoping. They are listed in connection with the Comment section in which they first appear.

D. AEIS Improperly Compares Proposed Mining to Past Mining Excesses. p.8

E. The DAEIS Improperly Relies on Annual Average or Other Long-Term Average Data. p. 10

-The DAEIS relies consistently on annual or even longer term average data and thus fails to consider seasonal variations, as well as drought and other conditions, which are concealed by long term averages-

Ex. 5, Baird Helgeson, "From golf courses to brewers, businesses cut water use." Tampa Bay Tribune On-Line (April 30, 2009)

Ex. 6, Greg Martin, Charlotte Sun (July 27, 2008).

Ex. 7, Southwest Florida Water Management District, Second Revised Notice of Proposed Agency Action-Approval Proposed Permit No. 20011400.025, February 16, 2012 (Mosaic MegaWUP).

Ex. 8, Memo from Ralph Montgomery, Atkins Technical Note, "Review of Draft AEIS Document," July 11, 2012. Mr. Montgomery was a principal author of the Peace River Cumulative Impact Study.

F. The DAEIS Groundwater Evaluation Fails to Address Central Issues. p. 11 -The

DAEIS never evaluates the mining impact on the surficial and intermediate aquifers.

Ex. 9, Bacchus, Masou, Madden, Jordan and Meng, "Geospatial Analysis of Depressional Wetlands near Peace River Watershed Phosphate Mines, Florida, USA," Environmental and Engineering Geoscience, November 2011.

Ex. 10, T. Mims Corp., Petition for Hearing on the Approval of Integrated Water Use Permit No. 20011400.025, issued to Mosaic (Mosaic MegaWUP), February 23, 2012, with attached report of Mike Cotter, P.E. Inc.

-The DAEIS modeling of the Floridan Aquifer does not address cumulative impacts-

-In order to minimize the mining impact the DAEIS assumes that everyone else will use less.-

-The DAEIS inadvertently reveals the great value of the water which the mining companies use for free.-

Ex. 11, "Phosphate: Morocco's White Gold", Bloomberg Businessweek, November 4, 2010, www.businessweek.com/print/magazine/content/10 46/b4203080895976.htm.

G. The DAEIS Surface Water Discussion Fails to Provide a Cumulative Discussion of Impacts p. 15.

-The DAEIS never addresses the cumulative losses of surface flow from mining, even though they are clearly significant.-

-There is no question that there has been a loss of flow in the Peace River over time-

-The DAEIS approach conceals the local effects of mining by measuring far downstream of the impacted areas-

-But, even taking the data contained in the AEIS, the mine impacts are significant.

H. The Destruction and/or Insufficient Reclamation of Wetlands and Surface Waters Have a Permanent Impact on Ground and Surface Water Systems. p. 18

-Disruption of surface and groundwater flows to creeks and streams by incomplete, though standard, reclamation is permanent but is never discussed and no inventory of wetland losses, past or future is ever provided-

-The DAEIS never acknowledges the permanent damage to base flow from CSAs-

-The AEIS analysis fails to consider the contribution of small streams to the watershed as a whole-

Ex. 12, Comments of Thomas Fraser on DAEIS, June 10, 2012.

-There is no discussion of the dewatering impacts of mining-

-The DAEIS fails to consider the comments of Brian Winchester about the difficulties of restoring wetlands-

-The AEIS makes demonstrably false assumptions about the success of reclamation and the impacts of reclamation delays and failures-

Ex. 13, Cynthia Barnett, "Mirage, Florida and the Vanishing Water of the Eastern U.S.", (2007) at 54, 59-62, 86-87, 176-79 (excerpts)

Ex. 14, FDEP Financial Responsibility Report, 2010

Ex. 15, FDEP Rate of Reclamation Report, 2010

I. The DAEIS Gives No Consideration to the Effects of Wetland Loss or Land Use Changes on Local Climate and Rainfall. p. 24

Ex. 16, Marshall, Pielke, Steyaert and Willard, "The Impact of Anthropogenic Land-Cover Change on the Florida Peninsula Sea Breezes and Warm Season Sensible Weather," Monthly Weather Review of the American Meteorological Society, Vol. 132, 2004.

J. The Cumulative Impacts of CFPD Mining on Water Flows Are Never Addressed. p. 25

K. There Is No Discussion of the Impact of These Reduced or Impacted Water Flows on the Charlotte Harbor Estuary. p. 25

L. The DAEIS Fails to Consider the Impact on the Critical Habitat for the Federally Endangered Small Tooth Sawfish p. 26

Ex. 17, 2010 Five-year Summary Report on Sawfish Research in the Charlotte Harbor Estuarine System, Florida Fish and Wildlife Commission, http://myfwc.com/research/saltwater/fish/sawfish/2010-report-charlotte-harbor-estuarine/.

M. The Water Quality Discussion Fails to Consider the Primary Impacts on Water Quality from Mining. p. 27

Ex. 18, www.dep.state.fl.us/water/tmdl/docs/tmdls/final/gp3/ThirtyMileCreekDOTMDL.pdf.

Ex. 19, ftp.dep.state.fl.us/pub/labs/lds/reports/9501.pdf.

-The Peace is higher in phosphate than similar rivers in Florida, and has excessive loadings of other pollutants as well, but that is ignored by the DAEIS.

Ex. 20. Ralph Montgomery, "Long-term Water Quality Trends and Changes in the Peace River Relative to the Influences of Phosphate Mining," USEPA State of the Science of Phosphate Mining, 2011.

-The background discussion reveals loss of fish species and habitat in the Peace watershed but the Consequences discussion ignores the issue-

-The water quality discussion at 4-111 reports the NPDES discharge data on a 5 year average basis and assumes that is an adequate discussion of water quality impacts. It is not.-

-The parameters monitored at NPDES outfalls are very limited and do not begin to address the universe of water quality risks-

Ex. 21, Draft Expanded Site Inspection Report, Borden Chemical Company/Tenoroc Mine, Auburndale, Polk County, Florida, Prepared for USEPA Region 4, January 8, 2001.

Ex. 22, EPA's Phosphate List, November 5, 2007. A contract was issued in 2010 for cleanup of the Stauffer Chemical Site in Tarpon Springs, USEPA Superfund and Brownfields News Release, "Construction Contract Issued for Stauffer Chemical Site in Tarpon Springs," February 10, 2010.

Ex. 23, TRI found at http://www.epa.gov/tri/. See also ManaSota-88 Newsletter, April 12, 2012, with a list of quantities of TRI chemicals released.

-The water quality discussion also fails to consider the impact of spills on water quality.

Ex. 24, Florida Institute of Phosphate Research (FIPR), Phosphate Primer, Water Quality, Chemical Processing of Phosphate, Radioactivity and Phosphatic Clay Ponds, Process Water, Phosphogypsum Stacks, Phosphate Beneficiation, Air Quality, Clay Settling Ponds, Other Phosphate Deposits..

Ex. 25, USEPA Office of Solid Waste, "Human Health and Environmental Damages from Mining and Mineral Processing Wastes, http://www.epa.gov/osw/nonhaz/industrial/specialmining/minedock/damage/damage.pdf. December 1995 (excerpts provided); "Chronology of major tailings dam failures," WISE Uranium Project, versions updated September 3, 2009 and November 16, 2006. These studies view gypstack dam failures, CSA failures, and failures of other mining impoundments as relevant for common study and review. They are dam/berm failures, no matter what is contained inside and spilled.

Ex. 26, Christopher Curry, "Phosphate facility in White Springs remains closed after flood during Debby," The Gainesville Sun, July 6, 2012.

Ex. 27, Josh Salman, "Environmental officials reduced HRK's mortgage note at Piney Point, Bradenton Herals, July 24, 2011; Josh Salman, "HRK never installed common dirt protective cover at Piney Point," Bradenton Herald, July 11, 2012; "Tom Tryon: For Piney Point Horror Show, one sequel is enough," Herald-Tribune, June 12, 2011; Glenn Compton, "DEP's errors at Piney Point," Herald-Tribune, June 10, 2011; Halle Stockton, "Port defends dumping slurry into pools of radioactive waste," Herald-Tribune, June 3, 2011.

Ex. 28, "Court: Fishermen can sue over Hillsborough Bay pollution," Tampa Bay Online, June 17, 2010.

N. Exclusion of Chemical Plants and Gypstacks is Improper. p. 33 -

Objection to exclusion of chemical plants and gypstacks from the analysis-

Ex. 29, 2010 Minerals Yearbook, Phosphate Rock, US Geological Survey, http://minerals.usgs.gov/minerals/pubs/commodity/phosphate rock ; 2010 Minerals Yearbook (Advance Release) with tables; Phosphate Rock, Mineral Commodity Summaries, US Geological Survey, January 2012, http://minerals.usgs.gov/minerals/pubs/commodity/phosphate-rock/mcs-2011-phosp.pdf.

Ex. 30, Mark Peterson, Tampa Permits Office, US Army Corps of Engineers, "Phosphate Mining in the Bone Valley," January 14, 2011 (Powerpoint presentation-excerpts dealing with gypstacks. The entire presentation was provided previously).

O. Radiation and Air Emissions Associated with Mining Present Serious Public Health Concerns. p. 36

-There is no discussion of the serious public health impact from radiation as a result of the mining and processing activities-

Ex. 31, 44 FR 38664 (July 2, 1979)

Ex. 32, 41 FR 26066 (June 24, 1976)

Ex. 33, Polk County Residential Building Radon Protection Map, Florida Department of Health, www.doh.state.fl.us/environment/community/radon/MAPS/resbhard.htm.

Ex. 34, Greg Martin "Views of wetland mitigation mixed," Charlotte Sun, March 30, 2011.

Ex. 35, Greg Martin, "Fla.reps lobby EPA to drop flyover plan." Charlotte Sun, July 11, 2011; Doug Guarino, "EPA, GOP in 'Head-To-Head' Fight Over Residential Radiation Standard," Superfund Report (July 11, 2011). See also letter from Florida Congressmen to Honorable Lisa Jackson dated February 16, 2011 and example of USEPA response to Congressman Rooney, dated May 4, 2011, pointing out that there was an excellent correlation between aerial surveys for radiation of a Superfund site in Plant City and ground-based measurements.

-The AEIS fails to consider the impacts of air emissions from mining and processing-

Ex. 36, Dust emissions from mining.

Ex. 37, Susan Marshalk Green, "Blowing sand and dirt from Mosaic phosphate mining in Fort Lonesome is sickening them, neighbors say." Tampa Bay Times, June 8, 2012, www.tampabay.com/news/environment/article1233945.ece.

P. The DAEIS Fails to Consider the Economic Value of the Resources Lost to Phosphate Mining or the Costs to the Public of Mining p. 38

-The economic analysis entirely fails to consider the economic value of the natural resources taken or placed at risk by the mining proposals-

Ex. 38, Everglades Foundation, "The Economic Impact of Recreational Tarpon Fishing in the Caloosahatchee River and Charlotte Harbor Region of Florida," 2011. It is reported that the Florida tourism industry generated over $61 billion in taxable sales in 2011 and 25% of 2011 state sales tax revenue, directly supporting over one million jobs in 2010. Jeff Rood, "Environmental Conservation and Economic Prosperity in Florida," Florida Conservation Coalition, 2012. This intensively referenced document contains a breakdown of numbers and sources for many Florida ecosystem services.

-The economic analysis also ignores some substantial additional costs of mining.-

-The DAEIS purports to contain a study of the economic value of mining. It is improperly prepared and grossly inadequate.-

Ex. 39, Richard Weisskoff, Comments on AEIS: Methods and Computations and International Aspects of Florida Phosphate Industry.

Q. The DAEIS Fails to Consider Environmental Justice p. 41

R. The DAEIS Fails to Contain a Public Interest Review p. 43

S. The DAEIS Fails to Consider Several Very Viable Alternatives and Mitigation Opportunities. p. 44

-The DAEIS improperly refuses to discuss importation of phosphate rock as an alternative-

-The DAEIS failed to consider transportation methods which would reduce the extraordinary water use of the phosphate mines-

-The DAEIS fails to consider a reasonable buffer proposal-

-The DAEIS recognizes the benefits provided in the past by buffer zones, withdrawal limitations and conservation acquisitions but never discusses these as mitigation measures.-

-The evaluation of alternative locations for mining within the CFPD reveals that the process is a charade-

-Permits should be limited in time and mitigation should be monitored.-

-The Corps' choice of CFPD and its Purpose and Need make true alternatives and mitigation impossible-

-There are reasonable alternatives which should be considered-

T. The AEIS Process Has Led to Errors p. 49

-The AEIS was compiled hastily and appears to be full of obvious errors. Additional time should be taken to prepare a product which is accurate and credible-

-Several submitted documents appear to be missing from the Corps files.

U. The AEIS Process Has Been Improper and is Apparently Biased p. 51

-Besides the inexplicable exclusions of important issues, discussed above, the AEIS process itself has been improper in its decision to avoid the collection of additional basic data.-

Ex. 40, CH2MHill Letter of Agreement, January 28, 2011, with attached Professional Services Agreement and Statement of Work for An Areawide Environmental Impact Statement of Phosphate Mining in the Central Florida Phosphate District.

-The Corps Has Permitted Mosaic to Direct the AEIS Process.-

Ex. 41, Letter of Mosaic Fertilizer LLC and The Mosaic Company the U.S. Army Corps of Engineers, Attn: Mr. John Fellows, re Notice of Intent to Prepare a Draft Areawide Environmental Impact Statement for the CFPD, April 25, 2011 (via hand delivery).

-The Corps contractor for the AEIS has a conflict of interest which should bar its preparation of the AEIS-

July 25, 2012

John Fellows, Corps Regulatory Project Manager
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Cc: Steven W. Gong, AEIS Consultant Project Team Manager
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Re: Comments on Draft Areawide EIS for Central Florida Phosphate District

Dear Sirs:

Please look closely at the chart below. It is emblematic of the problem with the AEIS draft:

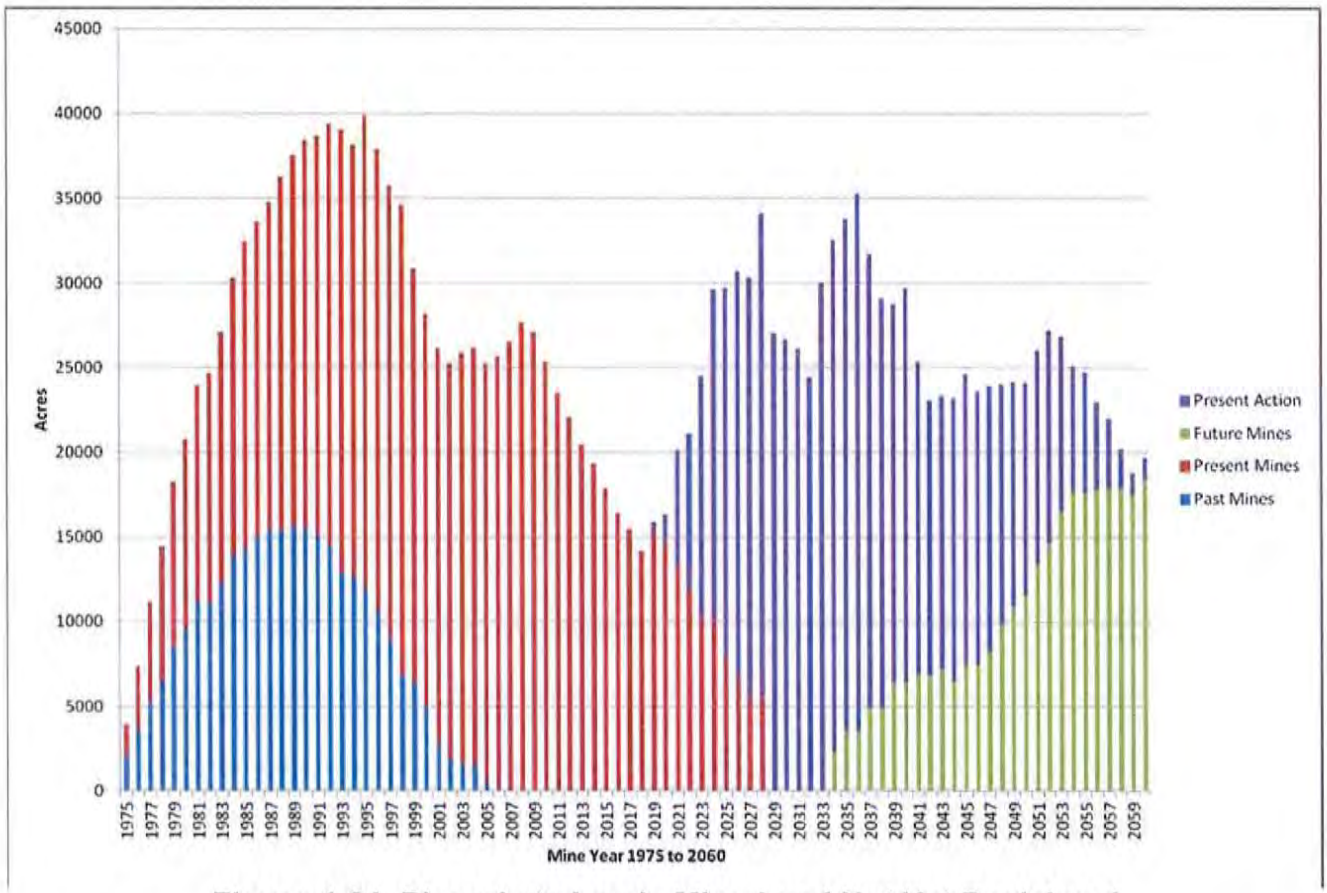


**Figure 4-61. Phosphate Lands Mined and Not Yet Reclaimed**

The chart, found at 4-191 of your draft Areawide Environmental Impact Statement (DAEIS), and attached in Ex. 1, demonstrates that, under the proposed permits, the phosphate mining

which has been so destructive of the environment of central Florida, is simply going to continue for decades, and even get worse. Reassurances about how problems, which the industry has admitted, are a relic of the past are simply not correct. We amplify on these issues, and raise certain additional points below.

We are providing these comments on the proposed Corps of Engineers (COE or Corps) DAEIS for the Central Florida Phosphate District (CFPD) on behalf of a group of community and environmental organizations listed below (Environmental Groups). Many of these organizations have participated actively in your previous permitting efforts for phosphate mining and were pleased at your decision to conduct an AEIS. Unfortunately we believe the resulting draft fails to comply with AEIS requirements in significant and material ways.

While our comments are provided in more detail, with support, below, the overall problem with the DAEIS is its failure to address the cumulative impacts of the proposed mining plus past and current mining and its failure to acknowledge or consider the extensive data showing mining impacts to groundwater, surface water, water quality, air quality, local climate and public health.

While we point out many areas where data is ignored or issues are dismissed without discussion, the graph provided above, and in Ex. 1, is illustrative of the problem occurring throughout the document. The graph of areas mined and not reclaimed at 4-191(citations to the DAEIS will be to the chapter number and page), shows that acreage mined and not reclaimed peaked in the past in about 1995 at about 40,000 acres, and will fall to about 14,000 acres in 2017, suggesting improvements. But then, with the new proposed permits, acreage mined and not reclaimed will rise dramatically to some 35,000 acres in 2036, almost a doubling of impacted land, and the numbers will actually be worse if the mining companies usual delays in reclamation continue and if infill permits not included in the AEIS are added.

This mined and unreclaimed acreage captures surface water flows and impacts local climate, wetland function, habitat, and many other important natural resource services. **The graph tells us that we are about to enter the second major era of phosphate mining and mining destruction; yet the DAEIS never addresses this reality.** Instead the DAEIS, and the industry, acknowledge serious problems in the past but claim the future will be different. The data which the DAEIS refuses to consider proves otherwise; this is antithetical to the letter and spirit of the National Environmental Policy Act (NEPA).

## A. The Proposed Purpose and Need Statement is Improper

The Corps has essentially adopted the applicants' statement of the purpose and need for their phosphate mines: "The basic project purpose for each of the four similar actions under review in this AEIS is to extract phosphate ore, and the overall project purpose is to extract phosphate ore from the mineral reserves located in the CFPD and to construct the associated infrastructure required to extract and process the phosphate ore at separation/beneficiation facilities recognizing that the ore extracted must be within a practicable distance to a new or existing beneficiation plant." 1-16 (citations to the DAEIS will be to the chapter and page number). This formulation closely mirrors the purpose and need statements proposed by Mosaic and CF. 1-14 and 1-5. The Corps' purpose and need statement is one which

appears to lead to an AEIS which will ALWAYS approve the mining of phosphate without limitation, since that is the purpose against which all alternatives will need to be measured. It is improper on its face.

The purpose of an action as discussed in the AEIS must reflect the underlying reason for NEPA and AEIS analysis in the first place, the need to consider environmental impacts in federal actions. A purpose which predetermines the result is not consistent with NEPA or the regulations. It is clearly inconsistent, for example, with the clear direction in the statute and regulations that a "no action" alternative be included and seriously considered. A purpose and need statement like the one proposed will always result in rejection of the required no action alternative. Further, the statement as proposed by the Corps suggests that the Corps itself will be mining; in fact the Corps action, the federal action which creates jurisdiction, is to permit mining consistent with Section 404 of the Clean Water Act which is supposed to protect the water resources of the United States. Accordingly the purpose and need for an EIS addressing the Corps' actions should include the environmentally protective role the Corps is directed to play.

The regulations say that the purpose and need should reflect the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action. 40 CFR 1502.13. In the instant case the agency, the Corps, is responding to the significant environmental impacts and effects of mining and its consequences. We believe the purpose and need for the project should be expressed as follows: "**The purpose of the proposed action is to review permit requests for phosphate mining in a manner which will protect the environment, promptly restore mined lands, and protect downstream uses.**" Similarly the need is "**to supply a reasonable public and private need for phosphate while protecting the natural environment.**"

Further, as additionally discussed below, the entire Bone Valley phosphate deposit is the subject of the AEIS, and all the alternatives examined are simply alternative mining sites within the CFPD. Two of those pretended "alternatives" are actually future Mosaic mines. Others are other CFPD properties which have been screened to eliminate urban areas and state parks. The alternatives essentially include everything within the CFPD that is not already mined or permitted for mining, urban or too small to mine. They assume that everything within the CFPD is open for mining; they appear to be a shopping list for the mining companies.

As discussed below, there is no single map in the DAEIS which clearly identifies past, present and future proposed mining in relation to the impacted rivers. A glance at the land use map at 3-139, however, begins to demonstrate the nature of the problem. The large magenta blob in the northern 3/5 of the CFPD is the already mined land. The yellow north of that is urban, built up. Everything to the south is essentially wetlands and agriculture. It is this area that includes the four proposed mines, the two future Mosaic mines alleged to be alternatives, and the area the document suggests are additional alternatives. Together these past, proposed and alternative mines take up almost all of the CFPD.

There is no discussion of the cumulative consequences of such widespread mining. Many are discussed below, including the consequence of putting three new mines in the Horse Creek basin, destroying one of the few remaining environmentally significant tributaries to the

Peace River. One cumulative consequence in particular provides an example of the absurdity of the analysis. Numerous charts and aerials demonstrate the extensive network of wetlands and streams to be destroyed (though the Corps never provides a cumulative list). A rough calculation is that some 12,000 acres of wetlands and 469,009 feet of streams will be destroyed by the identified four mines alone. Including the 3 specified alternatives, which are simply future projects, not really alternatives, over 37,000 acres of wetlands will be destroyed. See 1-17 to 1-19 and 2-9. In light of the fact that the northern half of the CFPD has already been mined, the **DAEIS NEVER DISCUSSES WHETHER THERE IS SUFFICIENT WETLAND AND STREAM CAPACITY WITHIN THE CFPD, OR EVEN BEYOND IT, TO MITIGATE FOR THIS DESTRUCTION WITHIN THE PEACE AND MYAKKA WATERSHEDS.** Mitigation is supposed to be watershed based, but if a good part of the watershed is mined finding mitigation lands becomes a real concern. Surely the Pine Island mitigation bank is not the answer to this problem. In its zeal to allow the mining companies to mine everything they want, the Corps postulates a purpose and need which makes compliance with the law impossible.

Our previous comments on the Purpose and Need Statement in connection with scoping and in connection with the South Fort Meade extension permit were supplied in our letter dated April 20, 2011, and in Percy Angelo's letters of April 13 and 19, 2011, and we assume that those comments and enclosures have been incorporated into this record. The South Fort Meade extension comments supplied in those letters noted the Corps' evolution in its purpose and need language as it sought to buttress its decisions to allow mining of every bit of phosphate which the mining companies ask for. This is a clear attempt to evade NEPA requirements and is arbitrary and unreasonable.

## B. The AEIS Does Not Represent a Cumulative Analysis

**The Corps never supplies a single map on which the extent of mining can be discerned or a single chart on which the dates of overlapping mine operation can be discerned or any map showing the relationship of the mines in question to the impacted rivers.-** While the purpose and need statement is designed to allow mining of almost every deposit of phosphate within the CFPD, the maps supplied in the AEIS conceal this impact. In order to see the total area covered by mining in the past, or anticipated for mining in the future, one must assemble maps at 1-18 (Historical mining and 4 proposed mines covered by the AEIS) and 1-25 (Potential additional mines at Pine Level/Keys and Pioneer Tract) and 4-175, 177 (existing mandatory and nonmandatory). If you try to look at these maps together it appears that just about the entire CFPD is anticipated for mining. The areas left out are either state parks/Florida Forever parcels, or urban areas, or areas proposed for mining as alternatives in the AEIS. The mining companies and the Corps appear to anticipate that the entire CFPD will essentially be abandoned to mining, or to neighboring mining.

The map at 3-87, though supplied for the discussion of TMDLs, can be used to tease out past, present and proposed mines, though it doesn't reveal the additional so-called alternatives. It does show that the entire upper reach of the Peace is covered with mines on either side, and the entire lower reach of the Peace in the CFPD is proposed for mines, although the river itself, unaccountably, is not shown.

The DAEIS has different estimates, in fact sometimes dramatically different estimates, for the amount of wetlands and streams to be impacted by the four proposed mines. Compare ES 5 to 1-16 to 19 to 4-30. The differences amount to over 2000 acres of wetlands and almost 200,000 linear feet (31 miles) of streams. We have no way of knowing what the correct numbers are. In our discussions we give our source within the DAEIS wherever possible, but we urge that the discrepancies be corrected.

According to 4-174, 204,000 acres in the Peace watershed are already mined or permitted, 35,000 in the Little Manatee, 3700 in the Manatee and 2900 in the Myakka. Elsewhere the numbers seem to be different.

At 4-187 to 188 the DAEIS tells us that mining is currently 10% of the Peace River watershed of 2350 square miles (1,504,000 acres, of which 10% is 150,400 acres, devoted to mining now). This is a difference of over 50,000 acres from 4-174. According to 4-187 to 188, eighteen percent is native (natural) lands. It doesn't tell us the next obvious question, what percentage of the watershed will be devoted to mining under the AEIS. We have to do our own work to estimate those figures. Very roughly, since the data we are given is not broken down by watershed, we can estimate that the proposed Peace River mines and Pioneer will involve over 73,000 acres, almost 5%, for a total of 15%. We don't have the data to calculate the amount of natural lands lost to mining, but it is likely high in light of the fact that mining will take place in the south and prior mining and urban development is in the north. Id. We can calculate from data elsewhere that almost 22,000 wetland acres will be lost to mining. See 1-17 to 19 and 4-30. Sixty-two miles of streams will be lost within the Peace watershed alone. Id. (The omission of this data for the Peace is interesting since these figures are given for the Myakka. Mining will go from 0.8%% to 7.4%, including Pine Level. Wetlands and water comprise 22%, but again, we are not told how much will be lost. Id.)

These numbers are in addition to the losses already incurred, 136,000 of 355,000 acres of wetlands (38.5%), 31,000 of which were lost despite regulatory limits on losses, and 343 miles of streams. 4-189.

And yet there is nowhere in the AEIS where these devastating consequences are pictured, calculated and discussed. There is not even a chart where the reader can determine which mines will have overlapping, and thus cumulative, years of operation (4-173 does not include all the years of impact. Ona extends to 2065, with reclamation. Pioneer and Pine Level, extend into the 2080s, even into the 2090s, including reclamation). This failure to discuss cumulative impacts, over space or over time, is a clear violation of the function of an AEIS. When one recognizes that mining in the upper Peace River has contributed to a 20-50 foot drop in the Floridan Aquifer and the drying up of the river and important springs, the prospect that we are about to do 50% more mining in the lower part of the river is dismaying, yet this is never discussed, and, as described above, it requires some effort even to get the data.

This is the consequence of a purpose and need statement which says that the Corps' purpose is to extract phosphate ore from the CFPD. Apparently that really means the entire CFPD, or at least as much as the mining companies can get their hands on. There is no question that the statute and regulations require a discussion of the cumulative impacts of mining. As addressed later in this section, the DAEIS substantially fails to provide this

discussion. The failure to even include a map of all mining areas is strong evidence of this failure.

**-The DAEIS also fails to provide a map showing the relationship of the mines to the impacted rivers.-**Unaccountably, the AEIS document also fails to provide any map which shows the rivers involved, the Peace, the Myakka, Horse Creek, and their relationship to the mines proposed. Similarly, despite a section purporting to discuss relative losses in streamflow with reference to USGS gaging stations, there is no map showing the rivers, the gaging stations AND THE MINES. See 3-37 (rivers), 3-42 (some, not all, gaging stations). This information is crucial to understanding impacts. Studies by the US Geological Survey have noted the impact of mines and their clay settling areas which border the Upper Peace River for miles and contribute to its loss of flow. These studies were provided to the Corps in the scoping process. See Letter from Angelo to Corps, April 13, 2011. Despite the clear importance of the actual location of the mines in relation to the rivers, there is **NO** map in the AEIS which shows this in order to assess whether the impacts of the mining activities which have devastated the Upper Peace may impact the lower Peace (with Desoto and Pioneer), the Myakka and Horse Creek as well. This is inexplicable, and wholly improper.

One further unfortunate twist of the DAEIS approach is that we actually don't know how much mining will be involved. In addition to the inconsistencies from page to page within the DAEIS, the Corps explains that the Surface Tract was excluded from the AEIS because it is small enough to be permitted under the Corps nationwide permit program, without the usual Corps, or public review. Infill projects around the boundaries of existing mines may also be added, without being accounted for in the AEIS. 4-29. These additional but not disclosed projects have the effect of extending the operating years, footprints and impacts of mines without being factored into the models and analysis. A phosphate mining AEIS should include **all** mining, irrespective of permitting categories. Any mining area excluded from this analysis should not be permitted absent preparation of a supplemental EIS.

The DAEIS claims that it is not a programmatic EIS. If this is thought to be justification for the limited analysis provided, as discussed below, it is improper.

With the improper purpose and need statement, the failure to evaluate cumulative impacts, over space and over time, as further discussed below, and the other errors such as the exclusive use of downstream and long term average data, also discussed below, the Corps has effectively abandoned the CFPD to mining and its impacts.

**-The DAEIS never provides a cumulative analysis of surface water flow reductions and wetland and other habitat losses though there are indications they will be highly significant-**While this will be discussed further in connection with surface water issues below, it is highly troubling that the DAEIS does not contain a discussion of the impacts of surface water flow reductions from the proposed mines, in addition to the existing flow reductions from existing mines.

The chart above, also reproduced at Ex. 1, shows the amount of land mined but not reclaimed over the years. The amount peaked in approximately 1995 at 40,000 acres and is expected to decline to about 14,000 acres in about 2018. Then, however, with the proposed new mines it starts to increase again, dramatically, till it reaches over 35,000 acres in 2036.

This is significant because this acreage is the "capture area" of the mines, the area that impounds surface water and prevents it from entering creeks, streams, rivers and ultimately Charlotte Harbor. (For an explanation of a mining company document in which this is acknowledged as the capture area see Ex.1 and the surface water discussion below).

The DAEIS makes a calculation of flow losses by capture for the proposed mines, but never add these losses to those already experienced from existing mines and reclamation delays. How big could those be? In 2012 flows are impacted by a capture area of about 19,000 acres, according to Ex. 1, 4-191. The 2037 capture area, mined and unreclaimed land, is almost twice as large, suggesting a loss of flow twice what we experience today.

It appears that the same total loss will occur for wetlands and for habitat, during this "moonscape" period. And, as discussed in connection with local climate below, meteorological studies have shown a loss of localized rainfall and increase in temperatures as a result of loss of ground cover. One of the years studied was 1993, a year in which mined and reclaimed land was at 38,000 acres, close to its highest, Ex. 1, and also a year occurring in the midst of a substantial drop in Peace River and Alafia flows, Ex. 2.

The DAEIS devotes much time to talking about how things will not be as bad as they were in the past, but in fact they will be just about as bad. Compared to today there will be almost twice the damage in terms of wetlands lost, flows lost, habitat lost, and yet there is no discussion of the issue. How can that not be worthy of mention, let alone analysis!

**-The AEIS is improperly limited in geographic scope-** We have previously noted to you that your AEIS scope, and your DAEIS, are substantially insufficient in that they appear to include only the property within the CFPD boundaries and therefore exclude the downstream counties, watersheds and estuaries most impacted by mining. These include Charlotte, Sarasota and Lee Counties, the Peace and Myakka Rivers and the Charlotte Harbor estuary, as well as the counties and river systems bordering the CFPD to the west, the Alafia, the Manatee, and the Little Manatee, and Tampa Bay. In discussions you have assured officials in neighboring and downstream counties that your analysis will include them. You have failed to do so.

Brian Winchester, a wetland expert who provided scoping comments on behalf of ManaSota-88 and 3PR, comments which were ignored and not even included in the DAEIS appendix, noted specifically that the CFPD artificially truncates the western boundaries of all affected watersheds that have estuarine outflows, and thus excludes all downstream estuarine impacts. His comments are provided, again, as Ex. 3 to this submission. Winchester urged evaluation of downstream estuarine impacts, including the timing and volume of freshwater in-flows and changes in natural salinity regimes, other water quality effects such as turbidity, color and nutrients and effects on fish habitat, commercial fisheries and threatened and endangered species such as the small tooth sawfish and Gulf sturgeon. As discussed further in connection with groundwater flow, and water quality (demonstration of impairment of ThirtyMile Creek, a tributary of the North Prong of the Alafia), there is real evidence of impacts which should have been considered and weren't because of the artificial geographic limitation of the CFPD.

The DAEIS failures to provide a cumulative analysis, to provide any usable set of maps or figures to identify impacts, and to address central and significant issues such as gypstacks, public health impacts, or the economic value of agriculture and natural resources, result in a document which is so inadequate as to preclude meaningful review. See 40 CFR 1502.9. It should be corrected so that the AEIS process can proceed in compliance with law.

## C. DAEIS Improperly Limits the Scope of the AEIS to 2060 and Never Considers the Consequences of the Extended Environmental Disruption Which is to Come

The DAEIS decides that the temporal scope of the study should end in 2060, because, it claims, 2060 represents the end of the mine life, including reclamation, of the four specific projects being considered. 4-171. The DAEIS concedes that this 2060 date "overlaps" with the dates of operation of the two specific mine "alternatives." While the DAEIS is wrong based on its own assumptions (Ona reclamation extends to 2065 according to 1-17), it is also clear that the so-called mine alternatives are in fact simply future mines. And those mines extend well beyond 2060, into 2090 and beyond (Pioneer mine reclamation appears to extend to at least 2090-30 years after Ona with 10 years reclamation. 4-81). The chart above, Ex. 1, illustrates vividly that 2060 is not the end of impacts.

Throughout the DAEIS the document glosses over or ignores the actual time frames of disruption. In addition to the failure to consider the lives of the so-called alternative mines, as discussed below, it fudges the predicted reclamation periods, it ignores the numerous reclamation variances, it fails to mention the serious reclamation delays which are so extended that bond penalties have been imposed, and it fails to consider the essentially permanent damage of CSAs etc. It also does not address an obvious question, the ability of the methods of wetland analysis (UNAM or WRAP) to sufficiently account for periods in which wetlands are not available. It appears that the mining impacts will in fact be experienced through the end of the century. Nowhere does the document consider the consequences of that extended damage.

The graph above and Ex. 1, the 4-191 graph of phosphate lands mined and not yet reclaimed, illustrates this problem quite vividly. The end of the graph, in 2060, still shows 20,000 acres of lands mined and not yet reclaimed, some of those acres from proposed mines. Since those acres apparently do not include nonmandatory acres, or infill or small mine projects, the actual impact will be even worse.

The decision to limit the AEIS scope to 2060 improperly ignores the additional decades of impact to groundwater, surface water, wetlands, local climate and all of the additional environmental insults discussed below.

## D. AEIS Improperly Compares Proposed Mining to Past Mining Excesses.

Time and again within the DAEIS the document compares the impacts of proposed mines to past mining and concludes that it will be not much worse, or even better than the past, and appears to conclude that that is good enough. That is improper.

Mining in the past had a terrible environmental record. Before 1975 no reclamation was done and vast areas of the northern part of the CFPD have been left as a moonscape. As discussed below, many former mining properties are now Superfund sites due to the exposed mine tailings and their contaminants, including radium 226.

We have supplied to you studies by the US Geological Survey (USGS) which demonstrate that past mining has contributed to a drop in the Floridan aquifer which has led to loss of flow in the Peace River and the drying up of springs, such as Kissengen Spring. Despite this information, the DAEIS compares further reduction in flow from mining is compared to the flows already degraded by past mining. This is manifestly improper.

The USGS studies were contained in submittals by Percy Angelo on April 13 and April 19, 2011. These same USGS reports provide data demonstrating that the likely natural, premining condition, included artesian conditions, gaining streams, etc.; quite different from the reduction of Peace River flow, the entire loss of springs such as Kissengen Springs, and other impacts attributed by the USGS, in part, to mining. See also Ex. 4, p. 2 (map of artesian conditions). It is this nonmining state which must be used as the baseline for analysis in the EIS for any further mining, for water issues as well as wetland preservation, because if no further permits are issued the mining impacts will eventually diminish as reclamation is completed and groundwater pumping ends.

As discussed below, the DAEIS fails to consider the cumulative impacts of mining by separately identifying projected aquifer reductions and flow decreases from separate mines, and the impact of existing mines, without ever adding them together. Its underlying error, however, is the failure to identify the aquifer and flow recovery which would occur under the No Action Alternative, AFTER CURRENTLY PERMITTED MINING SUPPOSEDLY CEASES (It is hard to identify a clear date as the miners say they may add infill properties and extend their mining dates). This no mining scenario is the true base case, the true No Action Alternative.

A hint of the recovery which could occur without further permitting is provided by the chart above, Ex. 1. That chart shows the drop in mined and unreclaimed lands, and the drop in surface water capture acreage as current mining winds down, until 2018. If that wind down were permitted to continue, till reclamation of current mines were completed, one would see the true no action alternative.

Further, by and large existing mining was approved without an EIS (the 1976 study has clearly been out of date for decades). Existing mining was never properly reviewed for environmental impacts and basing further mining on the assumption that the devastation caused by existing mining is OK is an insupportable assumption.

The CEQ regulations state that an EIS shall serve as the means of assessing the impact of proposed actions, rather than justifying decisions already made. 40 CFR 1502.2 (g). An EIS requires consideration of cumulative impacts, which means past impacts **PLUS** current impacts, **PLUS** reasonably foreseeable future impacts. 40 CFR 1508. The baseline for the AEIS assessment, and the no action alternative, must be the state after current mining is reclaimed, not the state resulting from the damage which has already occurred.

## E. The DAEIS Improperly Relies on Annual Average or Other Long-Term Average Data.

**-The DAEIS relies consistently on annual or even longer term average data and thus fails to consider seasonal variations, as well as drought and other conditions, which are concealed by long term averages-**Throughout the AEIS the document compares phosphate impacts to long term averages, e.g. for surface water flows and for water quality measurements. See further discussion below. Limiting consideration to long term averages entirely conceals the significance of impacts during shorter term events such as seasonal changes (rainy season and dry) and droughts, a common occurrence in the CFPD. The result is to entirely hide water quality violations and damage from surface water capture and overpumping of the aquifer.

The CFPD is within the Southwest Florida Water Management District (SWFWMD) Southern Water Use Caution Area (SWUCA), defined because of overpumping of the aquifer and long term drought effects. The mining impact is in fact worse than described by the annual average; the mining companies actually use more water in times of drought, since they don't have access to rainwater on their mine sites and must pump more water to make up for that shortfall.

As simply one example of the significance of seasonal data, Ex. 4 is a presentation by Terrie Lee of the US Geological Survey to the USEPA's State of the Science Conference on phosphate mining. Page 12 of that presentation demonstrates the modeled depth of water in depressional features and wetlands in the wet season vs the dry season in 2004. The difference is striking and clearly important for an understanding of the functioning of those wetlands: yet the difference would be entirely concealed by an annual average discussion.

It is important to put Mosaic's water use in perspective. Exhibit 5 is an April 30, 2009 article from the Tampa Bay Tribune identifying the largest water users in the Tampa Bay area, in the third year of a drought. Mosaic was the largest, by many times, using 17.77 billion gallons, with the next largest using 3.22 billion. CF came in at 2.79 billion. The article points out that many of the other largest users, such as agriculture, also can not reduce their use during drought.

Exhibit 6 is an article from the Charlotte County Sun Herald (July 27, 2008) regarding Mosaic's pending application for its new water permit. That application, for 76 million gallons per day, was "triple the quantity of water the Peace River/Manasota Regional Water Supply authority delivers to its 200,000 customers in its four-county region each day."

On February 16, 2012 SWFMWD gave notice that it proposed to issue Mosaic's new Mega-Water Use Permit (Mega WUP). Exhibit 7 (excerpts). The Mega WUP provides an annual average pumping allocation of 69.6 MGD, and **a peak month limit of 87 MGD.** The need to consider actual peak usage is recognized by SWFMWD, it should not be ignored by the AEIS.

Floridan aquifer groundwater usage for mining is 85 mgd or 8.5% of total usage, 4-195, a substantial commitment of our resources, for free. While the DAEIS touts the reduction in total usage from past extraordinary excesses, the fact remains that the miners are not willing

to limit themselves to the levels of their low usage months or years. They insist on the right to peak month limits, in Mosaic's case 24% higher than their annual average allocation. Inevitably they will take these larger quantities in drought, when every other user of the aquifer needs them too. Their impact must be measured by the damage they can in fact do.

Preparing an analysis for SWFWMD, Ralph Montgomery of Atkins Engineering comments throughout his document on the failure of the DAEIS to differentiate between seasonal flows and their implications for water supply reliability and cost. Ex. 8, at 1-2, 4-7, 11, 13, 15-16, 19-23. He even notes that the AEIS method "actually hides the real dry-season changes." Id, at 23.

When the mines being considered have operations extending almost to the end of the century (considering both mining and reclamation) the failure to consider the impacts during peak uses and the failure to recognize the impact of other potential water users, agriculture and development, is entirely improper. The fallacy of the long term average approach is echoed in the surface water and water quality areas, discussed below. Long term averages simply hide the impacts which the AEIS should be addressing.

**F. The DAEIS Groundwater Evaluation Fails to Address Central Issues.**

**-The DAEIS never evaluates the mining impact on the surficial and intermediate aquifers.** The sole groundwater analysis provided in the DAEIS is for the Floridan aquifer. As discussed below, that analysis is seriously insufficient, but the initial, surprising, problem with the DAEIS discussion of groundwater is the total failure to say anything about the effects of mining on the surficial aquifer, which feeds the streams and wetlands, and the intermediate aquifer below it.

The DAEIS concedes, and there is a great deal of evidence to support it, that mining affects the water table and negatively impacts nearby wells, wetlands and streams. 3-68 to 3-74. See also a recent study by Sydney Bacchus and others showing the draining of wetland areas near mining operations. Ex.9. Reports of wells in the vicinity of even closed mines show water table drawdowns. A recent appeal of Mosaic's MegaWUP documents water table damage to wetlands on the petitioner's property in the vicinity of the Mosaic mines, concluding that "Mosaic's own data indicates that the mine plan and reclamation plan have failed to prevent impacts to on-site and off-site wetland water levels either preserved or created." See Ex. 10 (Cotter Report at 3, 9 and 12). And the USGS study of Little Charlie Creek provided in the Angelo April 13, 2011 letter, demonstrates the functioning of a creek and surrounding aquifer system BEFORE mining, with upward recharge of groundwater to surface waters, feeding rivers and springs, and contrasts it to the performance of mined watersheds, downward recharge of waters to groundwater, draining rivers. See also 3-61 to 63; Ex. 4.

Data indicates that Mosaic's operations result in significant capture of surface water flows, water resources which are beyond those allocated by its SWFWMD permit. 4-5, 9. See also Ex.10 (attached Cotter report at 3). The graph at 4-191, Ex. 1, shows capture of surface waters from tens of thousands of acres of mined but not reclaimed land. It is ludicrous to think that one can evaluate mining impacts without addressing the surficial and intermediate aquifers, but that is exactly what the DAEIS pretends to do. There is modeling, though

insufficient, of the Floridan Aquifer, but there is no analysis of the impacts of mining, cumulative or otherwise, on the surficial and intermediate aquifers.

**-The DAEIS modeling of the Floridan Aquifer does not address cumulative impacts-**
There is no dispute that the potentiometric levels in the Floridan Aquifer have declined by 20 to 40 or 50 feet. 3-65, 4-190. Intensive studies by the USGS attribute this decline to increasing withdrawals, including withdrawals by mining, changes in drainage patterns through the construction of clay settling areas, ditches and canalization of natural streams, mining land reclamation which leaves large clay settling areas (CSAs) which decrease the hydraulic conductivity of the landscape and rainfall declines. See e.g. 3-66. See also Angelo letter, April 13, 2011, and attached USGS studies. Floridan Aquifer declines have led to the drying up of the Upper Peace River and of springs such as Kissengen Springs. Yet you might not know this data existed by reading the Consequences portion, Chapter 4, of the DAEIS. Despite overwhelming evidence of an already existing serious problem, the DAEIS limits its analysis to modeling the additional drawdown from the four proposed additional mines (actually only two of the four since two mines will continue to pump from former mine sites) and then modeling these mines with other uses **which it pretends will hold steady or even improve.** It does this analysis in a vacuum, **ignoring the damage already caused by existing mines.**

Notably, the limited work the DAEIS does do in fact shows a serious problem. Maps in the document show the results of simulated aquifer level drawdowns as a result of individual mine pumping and indicate significant impacts: slightly less than 4 feet for the Desoto mine, with the pumping occurring at the Fort Green mine in Polk County and the area of drawdown extending across much of the CFPD, 4-76, 6 feet at Ona, further south, with the area of drawdown to 0.5 feet extending across much of the southern part of the CFPD. 4-75 to 4-78.

No analysis was provided for Wingate or South Pasture Extension. It is assumed they will continue the pumping of existing mines. And no analysis either is provided for the two alleged alternatives, Pine Level and Pioneer.

The impacts identified must be added to the existing degraded state of the aquifer. This is not provided by the DAEIS. Nevertheless, a suggestion of the impact is provided by the Corps' analysis of the No Action alternative.

Because the Corps defined the No Action alternative to include the continued operation of existing mines, that circumstance was pictured at 4-65 through 4-69. Significantly, as those existing mines are phased out the depressed aquifer rebounds significantly, over 6 feet at the most impacted point, and the rebound extends well beyond the boundaries of the CFPD. 4-69. This rebounded condition is much closer to the true base case and is an obvious improvement over current conditions. The "improvement" demonstrates just how bad things currently are. The DAEIS describes these improvements as "relatively small." 4-70. Yet they represent an improvement of 15 to 30%, not "relatively small" by any normal use of those terms. And if the Corps had used the No Action alternative (phase out of mine pumping) with the improvement in aquifer levels which it models elsewhere from the limiting of agricultural pumping it is clear that a substantial improvement would be available. Using the 4-65 to 4-69 maps together one can infer the significant contribution of groundwater withdrawals for mining to a very degraded Floridan Aquifer System, degraded to the point that SWFWMD has

declared the area a Southern Water Use Caution Area and has had to take measures such as limits on residential usage, a clear economic cost from mining which is borne by the general population.

The text does not discuss these points. Apparently it is hoped that the reader will miss them. Instead, to cover the damaging information being conveyed, the draft creates a red herring, a discussion of the impact of mine pumping on wells west of the CFPD, where saltwater intrusion is already a concern as a result of overpumping for development and other uses, and east of the CFPD, and concludes that there won't be a lot of impact on these wells. But in fact the draft concedes, as it must, that Peace River wells, will be impacted, at least through 2045, 4-220, and the simulation at 4-69 shows clearly that the western wells, the saltwater intrusion wells, are already negatively impacted by phosphate pumping and will recover when pumping ceases.

**-In order to minimize the mining impact the DAEIS assumes that everyone else will use less.-** Oddly, when the DAEIS does what it pretends is a cumulative analysis, the charts of impact look like they get better. See 4-213, 215, 217, 219. This is because the analysis assumes that agriculture will pump less and no one else (e.g. residential uses) will use more, despite population growth. This is an argument which is used at several points in the DAEIS, any otherwise intractable problem can be ignored because SWFWMD will fix it. The DAEIS assumes that the excessive pumping by the phosphate mines will be offset in the future by SWFWMD efforts to limit pumping by anyone other than the miners. See e.g. 4-207, 230 (After 2025 SWFWMD will require 50 mgd reductions in pumping for agriculture and other users will be limited to 600 mgd). Leaving aside the likelihood that political reality will intervene, several facts demonstrate how incorrect these assumptions are.

First, the DAEIS assumes that agriculture will increase from 665,000 acres to 1,027,000 acres in the Peace and Myakka watersheds by 2030. 4-201. The DAEIS also acknowledges that populations will continue to grow, and will need potable water (In fact, the Figure at 3-131 showing areas of expected population growth shows the 2060 growth occurring smack dab in the middle of the mining areas proposed for Desoto County), but concludes that these populations will just have to get their water from some other source (e.g. surface waters or wastewater or conservation). 4-63. The hypothetical 50 mgd SWFWMD reduction for all of agriculture is less than the Mosaic allocation alone, but no data is presented to support this hypothesis, which is just that. (The document does not address, for example how the volumes allowed to agriculture vs mining will actually restore the aquifer or how agriculture will cooperate in limiting use or how surface waters will be available for substitution when the mining companies also reduce the total surface waters available). It is clear that in fact the DAEIS is presenting a shell game, pointing to one option and then switching to another when the first is disclosed as useless. But most alarming, the only big user which will not be limited in water use in the future, under the assumptions of the DAEIS, is phosphate mining. This assumption, arrived at in order to avoid the troubling consequences of the modeling results, is contrary to the intent of NEPA. Mining consumption is not only large "in the eyes of the public" as claimed by the DAEIS, 4-207, it is large as an absolute measure, and absolutely nothing is being proposed to change that.

Because of the clearly unrealistic assumptions, there is no actual cumulative analysis of mining groundwater impacts in the DAEIS, but one can get a sense of the issue by taking the impacts of the new mines and adding the so-called no action alternative which identifies existing mine pumping. 4-65 to 69 and 4-75 to 78. At their point of greatest impact existing mines represent an aquifer drawdown of 6 feet (when rebounded). Ona is 6 feet. Desoto is almost 4 feet. In each case the impact is across much of the CFPD. While the numbers don't precisely overlap, the points of withdrawal are fairly close and a cumulative impact clearly exists, which the DAEIS does not consider. These should have been added to the continuing pumping allowed for South Pasture and Wingate, pumping for Pine Level and Pioneer, and any other mines which will continue to operate due to infill projects and small projects such as Surface Tract.

While the drafters may argue that the mining companies usually use less than their total water allocation, in fact they are likely to use the most during droughts (when their surface water systems are not fed by rain). Unfortunately this is also the time when the natural systems and everyone else need the water the most. Similarly they have parroted Mosaic's hydrologist, Garlanger, in arguing that Mosaic recycles 95% of its water. 3-63. (Garlanger has also opined that Mosaic is only 10% responsible for the drying up of Kissengen Springs, 3-65, another odd use of science). This 95 % figure, however, does not mean the mining companies pump less than their permitted amount, it means that their actual water usage is many times more than the amount they can pump. In fact at another point in the DAEIS discussion it is noted that the decrease in surface water flows is due to the amount of water impounded at each mine. See e.g. 3-71. The actual amount of water, surface or groundwater, devoted to mining is extraordinary; yet the DAEIS does not address it. (One way to consider it is to look at the 95% recycling claim, which suggests a total usage of 1400 million gallons per day-if almost 70 mgd pumped represents 5%, total usage would be almost 1400 mgd. Another way to consider the impact would be to add the total pumping to the reductions in surface flow due to each mine, existing and new, perhaps using Ex. 1 again, but the DAEIS doesn't provide the data to do that, though it clearly exists).

Finally, while the DAEIS is extremely inconsistent in its data on the length of time that mines will operate, **it is clearly possible that the impacts identified will last till close to 2090.** See estimate of life of Pioneer mine plus 10 years of reclamation. 4-81. As noted above, the so-called "alternatives" analyzed are really just outlines of areas for future mines, which would extend these impacts almost to the next century. The groundwater impacts identified by the AEIS, though not addressed cumulatively and never discussed, are truly devastating, over space and over time.

**-The DAEIS inadvertently reveals the great value of the water which the mining companies use for free.**-Notably, the draft discusses the fact that the Desoto mine, in southern Desoto County, will have to rely on water pumped via a new pipeline from the Fort Green Mine in southern Polk County because **wells at the Desoto mine itself would be too close to Charlotte Harbor and have a higher risk of creating saltwater intrusion.**

Additionally, the draft notes that if the No Action Alternative were selected the waters currently used by the mines and gradually given up, **"would likely be highly sought by other users."** 4-63 (emphasis supplied). This is an extraordinary statement and is also nowhere accounted for when the economic costs and effects of mining are calculated. The

enormous amounts of water which Mosaic and CF are allowed to pump for free, primarily just to transport their material as cheaply as possible (see discussion of alternatives below) are an invaluable gift to the miners, which would be of great value to other users. **The incredible value of this free gift is demonstrated by the fact that Mosaic plans to build a pipeline across almost two counties to get this free water to the Desoto mine.** This lost opportunity to other economic uses, a resource opportunity cost, is a very substantial cost of mining and should be acknowledged by the DAEIS.

Water use for mining is incredibly wasteful. Most of it is used to slurry the matrix so it can be pumped to the beneficiation plant and then to slurry the sand and clay back to the mine for reclamation. Water is simply a free transportation medium. As discussed below, we know that other mines in Utah and Idaho use trucks and other dry methods to transport matrix. We also know that prior EIS documents have considered alternative means of transport. See 1-27 to 1-28. We further know that Morocco uses a conveyor belt to transport its mined material. Ex.11. Clearly those dry transport alternatives should have been discussed in the DAEIS.

## G. The DAEIS Surface Water Discussion Fails to Provide a Cumulative Discussion of Impacts

The surface water discussion entirely fails to address the cumulative impact of surface water flow losses, the loss due to proposed mines in addition to the impact of existing and past mines. It does not address actual flow impacts within the CFPD. It evaluates all impacts so far downstream as to conceal impacts within the watershed. It further fails by identifying individual mine impacts on an annual average basis, rather than a seasonal discussion which is important for habitat impacts (a problem which is addressed below).

**-The DAEIS never addresses the cumulative losses of surface flow from mining, even though they are clearly significant**.-At no point does the DAEIS do the obvious, calculate the loss in surface flow from the mines proposed, and add it to the loss of flow from existing mines. This is clearly data they have, or could easily access. Ex. 1 includes a sheet from Mosaic's Corps permit application for the South Fort Meade extension mine. Like the chart at 4-191 it shows in graph form the mined land not yet reclaimed. But it also describes this land as the "Capture Area" of existing mines, because these are the acreages of surface water which are retained within the mines and isolated from the surface water system. The totals are staggering, over 25,000 acres in 2000.

That the Corps is well aware of the importance of this data is illustrated by its discussion at 4-190 to 191. At 4-191, Ex.1, the same kind of chart is used, but without reference to the fact that the data shown also represents the Capture Area. Clearly this data could have been used, but wasn't to calculate the cumulative loss of surface flows. In fact the chart shows that the mines proposed will lead to a loss of 35,000 acres, almost as much as the highest level ever, in 1995 (Ex. 1, South Fort Meade graph, indicates that amount was about 43,000 acres, the DAEIS claims it was 39,000, either way it was enormous). **Bottom line, this data shows that the Corps recognizes the importance of mined land not yet reclaimed as a capture area for surface waters, yet the calculated impact on surface waters, existing mines plus proposed mines, is never provided or considered.**

The DAEIS acknowledges, and indeed emphasizes, that the process of developing a mine essentially removes the mine area from the surface water system, with ditches and berms around the perimeter and dewatering of the area inside. The mine then uses all water captured within its boundaries, which means that the captured surface water is no longer discharged to rivers and streams. 3-71 to 76. In fact the DAEIS admits that this capture reduces surface flows so that mines may discharge for only a few months a year, or even less in drought situations. There is ample evidence that mining substantially contributes to loss of surface flow. See also 4-231(indicating that improved aquifer levels may increase baseflow, which will in turn result in more capture by the mine ditch and berm systems, with the result that the rivers will not necessarily benefit from improved baseflow. )

Note that there is serious question whether the 4-191 chart, found in Ex. 1, even shows the full damage since it appears to exclude nonmandatory mined lands. This potential failure is suggested by the fact that past mines, shown in light blue, are claimed to be entirely reclaimed in 2005. Since we know that some tens of thousands of acres of nonmandatory mined lands haven't been and will never be reclaimed it appears that they are not included in this chart. (According to the SWFWMD Peace River Comprehensive Watershed Management Plan-Vol. 1, 2001 (Draft), cited in SWFWMD MFL draft for the Upper Peace River, 2-19, some 28,500 acres of nonmandatory mined lands in the Peace River watershed have no funds for reclamation. Adding 28,500 acres to the graph readings for unreclaimed lands would make the 2017 low of 14,000 acres higher by over 200%, 32,500 acres. The 2036 high of 35,000 acres unreclaimed would be 63,500 acres. The actual impact is worse even than disclosed at 4-191, Ex. 1, but in any case it is clear that the DAEIS has never disclosed and discussed the impact of proposed mines as well as mines not yet reclaimed on surface waters.

**-There is no question that there has been a loss of flow in the Peace River over time-**
There is no dispute that there has been a loss of flow in the Peace River over time. The DAEIS attributes this primarily to a rainfall deficit. The DAEIS notes a SWFWMD study, believed to be based on Mosaic consultant John Garlanger, that 90% of the flow loss at Zolfo and Arcadia and 75% of the loss at Bartow are correlated to rainfall deficits. 3-43. Look at the other side of those numbers. Ten percent of flow at Arcadia in a river the size of the Peace is highly significant. But the intensive mining during the study period took place further north where the Bartow station would have been impacted, with a 25% loss not attributable to the AMO, a staggering loss even by Mosaic's own calculations. The findings cited simply illustrate that you can minimize the apparent impact simply by going further downstream and writing off the area in between. This is a tactic used throughout the DAEIS.

As noted below in Section I, in connection with land use effects on rainfall, there are scientific studies by prominent meteorologists, ignored by the Corps, which tie rainfall changes to development leading to changes in land use and elimination of wetlands. The USGS has also shown that flow losses are tied to overpumping of the Floridan aquifer by agriculture and mining. SWFWMD, supported by the mining companies, has attributed the rainfall loss primarily to the Atlantic Multidecadal Oscillation, or AMO, a larger climatic event having to do with variations of water temperatures in the Atlantic ocean (conveniently the AMO has a spectacularly irregular period, making it hard to predict its impact or readily test its hypothesis). Oddly, the essentially unmined Myakka has NOT shown losses, despite the

AMO. 4-197. The DAEIS never acknowledges or considers these much more realistic explanations.

Besides the failure to look at meteorological rainfall studies, what is wrongheaded about the Corps approach is the failure to look at flow losses upstream, within the CFPD, at the vicinity of the mines. Even if the AMO has an effect on regional flows, a conclusion which in fact explains very little, that does not mean that flow losses from activities such as mining and localized climate impact within the CFPD are not significant and shouldn't be considered.

**-The DAEIS approach conceals the local effects of mining by measuring far downstream of the impacted areas-**The draft AEIS addresses surface flow impacts by assuming a simplistic approach to the overall runoff from a mined area and then comparing that impact to a measured flow at a downstream location, usually the gaging station at the Peace River at Arcadia. But this gaging station, and the others used by the model as well, are relatively far downstream so that localized impacts are hidden. (Note that there is no map which shows mine locations, potentially impacted rivers and the gaging stations identified in the analysis. One must tease this out by looking at several maps together. A more appropriate way to look at impacts would be to look at gaged flows at portions of the basin before and after mining, far enough upstream to see whether there is an impact. This was not done, even though it was proposed by USGS, and urged in the August 13, 2011 Angelo letter. This work would also help identify whether mined and reclaimed lands have continuing impacts after reclamation, for example from the 40% coverage of clay settling areas (CSAs) which are barriers to recharge and sources of increased evaporation.

The practical effect of the DAEIS approach is to treat the CFPD as a whole and to conceal local impacts within it. This is unfortunately consistent with the overall approach of the AEIS, which we have criticized: it writes off the CFPD and essentially abandons it all to mining.

**-But, even taking the data contained in the AEIS, the mine impacts are significant.** Assuming annual average rainfall of 50 in. per year, at 4-232 the DAEIS reports that the impact on Horse Creek from the mines which impact it will be a 16% loss of flow in 2030. This highest level impact will continue for 10 years but significant impacts will continue even through 2060.

Wingate East and Pine Level/Keys will result in a decrease of 13 cfs in flow of the Myakka to Charlotte Harbor, or 2%, with impacts, though lessened, continuing after 2060, when it will still be 11 cfs. 4-235.

The total decrease to Charlotte Harbor is predicted to be 41 cfs or 2% for several decades. 4-237. (This figure may not include the impacts from South Fort Meade which continues in operation until at least 2036).

Without calculation, reference to expert opinion or even real discussion, the DAEIS dismisses the significance of these numbers, including their impact on Charlotte Harbor salinity gradients. But, **how can a loss of flow of 16% for well over 10 years time, longer if reclamation is delayed, in one of the largest and most pristine tributaries of the Peace River, not be considered significant and deserving of discussion? There is no**

**analysis anywhere of what the loss of 16% of flow for a decade and more means to a river like Horse Creek. There is no analysis anywhere of what the loss of seasonal flows means for water supplies which must draw from the Myakka and the Peace, or construct additional storage capacity to make up for the DAEIS "average flow" analysis. And, as noted above, there is no analysis anywhere of the amount of loss from proposed mines <u>in addition to the loss from past and current mining</u>, even though this is the central requirement of a cumulative impacts analysis.**

Unfortunately, in order to understand impacts one has to make one's own time charts of overlapping operations and times of impact. The only time chart in the DAEIS, 4-173, does not contain flow impact data. Nor does it include reclamation periods (when pumping is still necessary) or additional future mines Pine Level/Keys and Pioneer. The calculations presented above accept the DAEIS assumption that mining areas will be reclaimed, ditches and berms removed, and the surface water flows returned to the river systems on schedule (although the text does not give the schedule for reclamation and at different points the DAEIS assumes 3, 8, 10 and even16 years after mining). The reality of course is that the mining companies are rarely on schedule. Reclamation is frequently delayed, which means surface water impacts will continue well beyond the assumptions of the DAEIS.

The DAEIS concedes that mining infill projects, not considered in the DAEIS at all, can also add to the life and total acreage of a mine.

The failure to identify impacts during natural low flow conditions, the failure to consider the full duration of loss, the failure to consider cumulative impacts, and the failure to consider the consequences of substantial loss of flow over time to the affected water supplies or to a river like Horse Creek makes the analysis entirely insufficient.

## <u>H. The Destruction and/or Insufficient Reclamation of Wetlands and Surface Waters Have a Permanent Impact on Ground and Surface Water Systems.</u>

**-Disruption of surface and groundwater flows to creeks and streams by incomplete, though standard, reclamation is permanent but is never discussed and no inventory of wetland losses, past or future is ever provided**-Nowhere in the DAEIS is there a discussion of an issue clearly called to the Corps' attention by the USGS and by the Environmental Groups. Mining permanently disrupts groundwater flow into surface waters. Reclamation never fixes this. In fact reclamation is simply designed to recontour and plant mined-out areas. See 3-17. It does not attempt to recreate the groundwater regime and its flow toward the rivers and streams. See e.g. 3-69 to 70 which shows that groundwater levels and hydraulic conductivities vary depending on the type of reclamation-most reclaimed areas did not mimic natural systems.

Thus, the assumption of the DAEIS, 4-164, that state reclamation requirements will be met and confine impacts to the mine footprint is simply wrong. See the numerous discussions about broader and continuing impacts, below.

In addition to the permanent presence of CSAs throughout the former mine site, there is substantial data to show that current methods to reclaim wetlands don't work. See discussion

in this section below. The draft document does not discuss that issue, and it certainly does not contain any studies to resolve it, though the Corps was urged to do that very work as part of the AEIS, in light of the enormous acreages of wetlands and streams involved.

Surprisingly, the DAEIS never discloses the total loss of wetlands or stream lengths to mining, past and present and future. (The data at ES 5, 1-16 to 19, 4-30 and 4-192 are incomplete and internally inconsistent. ). This is an obvious predicate to any discussion of the impacts of over 50,000 acres of further mining disruption yet it is missing in the DAEIS document. Nor is there any discussion of the total amount and period of time for wetland loss due to the new proposed mines and the impact of that temporal loss. While the graph at 4-191, Ex. 1, shows us how significant the issue is, there is no discussion which identifies wetlands lost in the past or wetlands to be lost for decades under future mines and what that total cumulative impact will be.

**-The DAEIS never acknowledges the permanent damage to base flow from CSAs-**USGS studies have identified CSAs as an impediment to groundwater recovery by providing a permanent barrier to flow, both by blocking infiltration and by interrupting base flows. It is acknowledged even by the industry that CSAs can permanently occupy 40% of the post-mined landscape. The USGS estimates 40-60% and attributes flow loss in the upper Peace in part to CSAs lining the banks. The DAEIS recognizes extended periods to reclaim CSAs and limited uses once reclaimed, but doesn't define either one. 3-6. At 4-96 the document assumes 3 years, which it must realize is obviously insufficient since at 4-166 it refers to several decades. The DAEIS discusses groundwater lowering in the Floridan aquifer from pumping, and surface water capture by mine systems, but never addresses the loss of groundwater flow to the surface water systems such as the Peace River and Horse Creek due to CSAs. This is a serious omission.

**-The AEIS analysis fails to consider the contribution of small streams to the watershed as a whole**- Speaking at the CHNEP conference on phosphate mining, the State of the Science, Terrie Lee of USGS addressed the importance of small streams to the health of a watershed and urged the use of LIDAR to identify such streams and wetlands. She further urged the maintenance of buffer zones along streams to preserve the effectiveness of the system. Lee's presentation is enclosed as Ex. 4.

Lee's comments are echoed by the summary of Thomas Fraser, attached as Ex. 12. Fraser, a Research Associate at the Florida Museum of Natural History, points out that the DAEIS simply classifies streams as intermittent or perennial, rather than 1$^{st}$, 2$^{nd}$, and 3$^{rd}$, order, a more precise classification which would be a better assessment tool for considering the impacts of mining. He notes that stream lengths and stream gradient are important items of data to assess for reclamation purposes, but have been ignored by the DAEIS. According to Fraser, studies by the state in the 90s show that it is not possible to rebuild streams on mined land and have the same fish communities as natural streams. Mining practices often cut off part of stream watersheds, reducing natural flow to downstream non-mined streams.

Fraser notes that levels of dissolved solids and pH play important roles in the presence or absence of some fish species. Almost all monitoring has been done in larger more buffered streams while in fact, the comparisons that should be made are in natural stream segments unaffected by cutoff stream segments. These are generally first and second order streams,

often very acidic, with low total dissolved solids within forested systems. Fraser cautions that streams which have existed for 100s of years cannot be destroyed and rebuilt in a span of 10-20 years. He urges that the phosphate industry should avoid most stream systems because they are among the most important habitats that mirror specific small watershed characteristics and maintain natural stream flow to larger streams.

The DAEIS does not dispute the importance of baseflow from surficial systems to streams and wetlands, see 3-59, but never addresses the function of such small stream segments or the effectiveness of restoring them, again consistent with the improper assumption that the CFPD will simply be abandoned to mining.

**-There is no discussion of the dewatering impacts of mining**-The DAEIS acknowledges that mining results in dewatering. See 3-68-69, 4-193. See also the studies of Sydney Bacchus, Ex. 9. The mining companies argue that their mining techniques protect wetlands by ditch and berm systems and other methods. Despite these protestations, authorities such as SWFMWD note that they have seen concerns with wetland dewatering as a result of mine pumping and mine dewatering. See Exhibit 6 (Greg Martin article). SWFMWD points out that "quantity is not the only factor considered when assessing adverse impacts: location of where the quantity is being withdrawn is just as important." SWFWMD required Mosaic to mark on maps its withdrawal points and mines in relation to the Peace River, wetlands, lakes, contamination sites and areas where SWFWMD has set minimum flows and levels. Id. Despite this the DAEIS does not address the damage due to local wetland dewatering and nowhere provides the straightforward map information deemed essential by SWFWMD, the relationship to rivers, lakes, wetlands, contamination sites and minimum flows and levels areas. The DAEIS pretends that SWFWMD will solve the problem, 4-164, there is no evidence to support this shifting of responsibility. Indeed SWFWMD reports that major water users, other than mining are moving into the southern portion of the basin, 4-194, where they will exacerbate the mining impacts.

Mosaic officials, responding in the Martin article cited above, are described as saying that the crux of the discussions with SWFWMD is over trigger levels. "Mosaic is trying to reach agreement with the district about what level of ecosystem degradation would trigger a remedial action." Ex. 6. Read this again, Mosaic is trying to negotiate an acceptable level of "ecosystem degradation."

Yet the DAEIS never recognizes the possibility of "ecosystem degradation." There is no excuse for this ostrich like behavior. The full set of SWFWMD questions to Mosaic were provided to the Corps. The Corps' approach is consistent with the concerns expressed above: the Corps has simply decided to abandon the entire CFPD to mining. This is egregious and highly improper.

**-The DAEIS fails to consider the comments of Brian Winchester about the difficulties of restoring wetlands**-On April 22, 2011, Brian Winchester, an expert in wetlands evaluation and restoration, submitted comments in the scoping process on behalf of ManaSota-88 and 3PR. Unaccountably the DAEIS and the Corps records fail to acknowledge receipt of those comments and fail to address the important issues raised by Winchester. Those comments are submitted again as Ex. 3.

Winchester tied his comments directly to the 1990 Memorandum of Understanding between EPA and the Corps about how wetland mitigation must be accomplished and to the Wetland Compensatory Mitigation Rule (CMR), effective June 9, 2008. 33 CFR Part 332. He noted that there are serious questions whether industry standard mitigation practices are meeting those rules, and good reason to believe they are not.

Winchester noted that the Corps in the DAEIS should evaluate which wetland mitigation approaches being used by the mining companies actually comply with the CMR, which requires a "watershed approach," an "analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed." 33 CFR 332.3(c)(2)(i). Under the CMR the landscape position of reclaimed wetlands and the protective function of non wetland riparian areas such as buffers must be considered. Under the rule reclaimed wetlands must exceed the wetlands lost in terms of both area and function. More protective mitigation ratios are required and there is question whether they are being applied. Wetland mitigation must be "in kind," meaning that the wetlands replaced must be of the same kind and function of those lost. (In the past the only distinction has been between forested and non-forested wetlands). Winchester notes that there is no data that reliance on the FDEP wetland reclamation rules meets these CMR standards, including the time lag necessary to achieve similar community and physical structure.

The CMR has special standards for difficult to replace resources. And special attention is paid to the need to assess whether systems such as perimeter recharge ditches and injection wells to protect wetland systems actually work to prevent dewatering and protect headwater bayhead and other seepage wetland systems.

Winchester points out that historic practice has been to allow the permittee to come up with a detailed mitigation plan after permitting, in direct contravention of 33 CFR 332.4(c)(1)(i) and 332.7 (c)(7). This prevents any objective evaluation of whether mitigation will work until after mining is underway, or at least permitted, avoiding the intent of the CMR as well as any real evaluation of mitigation success. Similarly, Winchester states the DAEIS needs to evaluate whether the performance standards specified in permits are "objective and verifiable," 33 CFR 332.5(a), and are actually working to insure a gain in wetland structure and function, and whether sufficient monitoring is required over time. Are released wetlands in fact providing a gain in wetland area and function. He says that neutral empirical evidence suggests they are not.

Winchester notes, as have others, that two wetland evaluation methodologies (WRAP and UNAM) are commonly used and that now that CMR is available it is past time to determine whether either or both or neither system actually meets CMR standards. This has not been done, though it should have been an important part of the DAEIS analysis.

Winchester states that many invasive exotic species have become established on even recently reclaimed minelands, in some cases forming virtual monocultures covering many square miles. He urged the DAEIS to examine the cause of this proliferation and domination of exotic and nuisance species on so-called reclaimed lands.

It is apparent that the DAEIS simply does not recognize the need for reclamation which is in kind in amount and function. The failure to consider the Winchester comments, though

supplied, is improper. But beyond that the DAEIS should have shown awareness of the CMR and how reclamation practices in the past have not been sufficient.

The mitigation section of the DAEIS is truncated, conclusional and based entirely on the biased evaluations of the mining companies. There is ample evidence, ignored and not even included by the Corps, that mitigation is not successful. Failure to consider that information is a fatal flaw in the DAEIS discussion.

**-The AEIS makes demonstrably false assumptions about the success of reclamation and the impacts of reclamation delays and failures**-While the AEIS makes differing assumptions in different places, all of its inconsistent assumptions about the completion of restoration are also inconsistent with reality.

Cynthia Barnett in her book "Mirage" indicates that ¾ of artificially created wetlands fail. Ex.13, at 86. She also cites the 2005 investigation by Craig Pittman and Matthew Waite in the St.Petersburg Times which used satellite imagery of land cover to demonstrate that at least 84,000 acres of wetlands in Florida had been lost during the 15 year period after President George H.W. Bush declared the national policy to be "No Net Loss." The same reporters found that the Corps allowed a higher percentage of wetland destruction in Florida than in any other state. Id. at 87. The DAEIS admits that wetland quality is lower overall than predevelopment, due in part to mining. 3-107.

The DAEIS indicates that the soils in the Peace and Myakka watersheds are actually more likely to be sandy, with a high water table, than the CFPD as a whole. 3-19 to 20 (Peace 49%, Myakka 63%). This indicates a high potential for runoff and wetlands, id., suggesting that the impact of mining in the future could be greater and even more damaging than in the past. Similarly the wetland map provided at 3-109 indicates that the area proposed for mining has significant wetland areas, including wetland hardwood forests, the most difficult to replace. At 3-112 the DAEIS contains a summary of wetlands currently within the CFPD and its watersheds. The Peace and Myakka between them have approximately 63% of the total, suggesting the magnitude of the threatened loss, and, possibly, the magnitude of the past loss as well. The impact of these past and future losses is never discussed in the Consequences section of the document.

In the face of these facts the DAEIS nevertheless assumes that reclamation will be complete just a few years after mining ceases. (The DAEIS estimates actually vary quite a bit at different points, with little explanation of the inconsistency. See discussion in Section U, below). This assumption underlies many conclusions, about the period of stormwater flow interruption, the period of groundwater pumping, and the period of wetland disruption and lack of vegetative cover. The AEIS needs to be blunt, the period before reclamation is the period when the ground looks like a moonscape, and this goes on for years. Nowhere does the DAEIS acknowledge the very damaging impacts of this period in terms of lost habitat, hydrological function or local climate. The total disruption is quite significant over time. See Ex. 1.

Unfortunately, even if one were to assume successful reclamation, despite the evidence it doesn't exist, the moonscape period is usually much longer than assumed by the AEIS. The State Financial Responsibility Report (2010), see Ex. 14, states that Mosaic, for example,

has substantial reclamation deficits at Four Corners/Lonesome (-7325 acres), South Fort Meade Polk County (-1925 acres), Hookers Prairie (-103) and Fort Green (-1993 acres) and CF has a deficit at South Pasture (-1014 acres). These deficits, periods of moonscape **after** mining, are **in addition** to the allowed period of mining and reclamation, and in addition to the formerly mined lands that will never be reclaimed because the state has taken the reclamation funds for these lands and used them instead for gypstack emergency response. There does not appear to be any estimate in the DAEIS of the total amount of moonscape acres. The troubling graph at 4-191, Ex. 1, may actually represent an optimistic view of the future since it apparently excludes nonmandatory acreage and assumes timely reclamation.

Any objection that this permanent destruction of the land during the nonmandatory period was done by others must fall on deaf ears. An EIS must look at past impacts. And we know that in large measure the mining companies of the past have been merged into the companies of the present and future. See Notes to ROR Reports, Ex. 15. There is no unfairness in following the mandate of NEPA that the current mining plans of Mosaic, which has bought up almost every active miner in the CFPD except CF, must take account of the past damage done by CFPD miners.

The State Rate of Reclamation Report for 2010, Ex. 15, states that 71% of mandatory mined lands have been reclaimed, though not released. Using the data supplied, however, the actual percentage appears to be 67%. Further only 38% have been reclaimed and released. Some of this "reclamation" is for industrial use; the amount is not disclosed. Since the period of required reclamation is 35 years (1975 to 2010), it is clear that a reclamation rate which still shows about 1/3 of the land mined since 1975 unreclaimed, even under the relaxed definition used, is abysmal.

Individual mine data gives the lie to the idea that the system of reclamation works. The Agrifos Nichols mine, now owned by Mosaic, has only 41% reclaimed and released, even though mining ceased some time ago. Pebbledale, also a former mine, is 37%. Mosaic's Fort Green and Hooker's Prairie mines have only 29% each reclaimed and released. Four Corners/Lonesome is 12%. CF South Pasture is 0%. Id.

As explained in our Scoping Comments, April 20, 2011 letter, at 10, and in the Angelo letter of April 19, 2011, the mining companies and the state make the situation worse by seeking and providing variances to allow delays in reclamation obligations. A list of variances was supplied in those comments, as well as a study by Professor Nora Demers showing the prevalence of variance requests and grants. In fact, we are not aware of any variances which have been denied, indicating that the state standards are simply irrelevant in considering the periods of mining impact. Variances are frequently required due to lack of fill material for reclamation, until more mining is done. This suggests that an environmental Ponzi Scheme is at work, one must continue to mine in order to have material for reclamation. What will happen when mining comes to an end and there is not enough sand to fill the last mine?

As noted above, the DAEIS assumes that soils for reclamation will be set aside. 4-164. In fact, as revealed in the variance requests, there is frequently insufficient soil for reclamation, particularly topsoil. Again the DAEIS assumes an issue that is contradicted by the facts.

Also, as noted above, until fully reclaimed and released the mined area is not connected back into the surrounding environment hydrologic system; stormwater is captured and retained on site over thousands of acres. Since reclamation makes no attempt to recreate the subsurface soils and geology (it only recontours the surface and plants vegetation) the groundwater flow systems are permanently disrupted. Clay settling areas, at least 40% of the land surface, are permanent sources of evaporation and barriers to surface water infiltration and groundwater flow. Groundwater pumping from the aquifer continues as it is necessary to support revegetation. **These impacts, both those which are permanent and those which continue much longer than the 3, 5, 8, 10 or more years assumed in the AEIS, are not considered in the AEIS document.**

While acknowledging that the amount of unreclaimed land under the new and foreseeable mines will go up substantially to 35,000, almost reaching the 39,000 peak from 1995 (not including nonmandatory unreclaimed lands of tens of thousands of acres), the DAEIS claims that the most direct measure of the past and present effects of mining is the amount of land reclaimed and that the number will eventually drop. 4-190. For all the reasons given in these comments, this bald pronouncement is clearly incorrect. The impacts are demonstrated in the effects on groundwater, the loss of streamflow, the loss of wetland function, the effects on local climate etc., none of which are diminished by the limited reclamation required by the state. The limited amounts of reclamation and the serious delays in accomplishing it are certainly an additional evidence of the impacts of mining which should be considered.

**I. The DAEIS Gives No Consideration to the Effects of Wetland Loss or Land Use Changes on Local Climate and Rainfall.**

The AEIS gives no consideration to the climatic effects of wetland loss or the presence of vast areas of land stripped of vegetation. (The discussion at 4-165 of regional climate impacts which might affect sea-level rise does not address this issue). This is not a fanciful concern. The USEPA in its comments on the South Fort Meade Hardee County permit called for consideration of the "heat island" effect of such areas. USEPA's concern is borne out by studies which show that changes in land cover and loss of wetlands can and do affect local weather. We are attaching as Ex.16 a study by Roger Pielke Sr. and co-authors Curtis Marshall of NOAA and Louis Steyaert of NASA published in the 2004 Monthly Weather Review of the American Meteorological Society comparing regional atmospheric modeling studies of Florida and contrasting the impacts in light of local land cover changes in 1900 versus 1993. The change in land cover from development, wetland draining and clearing resulted in significant alterations in July-August weather with "marked changes in the spatial distribution of convective rainfall totals over the peninsula." There was an overall decrease in the 2 month precipitation total (10 to 12% less) and an increase in daytime temperatures, and lowering of nighttime minimums. The effect was identified in all three simulated periods. Changing land use led to changing local weather; and the changes resulted in decreases in rainfall and increases in temperature in the summer. The model results were consistent with observational data showing decreasing regional precipitation (12%) and increasing maximum temperatures over the 20$^{th}$ century.

Very similar effects on a local scale are reported by Cynthia Barnett in her book, "Mirage," reporting a study by James O'Brien, state climatologist, working at Florida State University Center for Ocean-Atmospheric Prediction Studies. Based on computer studies O'Brien

observes that urban areas that have been drained for agriculture or development show steady rainfall deficits, a heat island effect. Deficits for Brooksville and other areas north of Tampa begin in the late 70s and early 80s when they were drained for ranchettes. Ocala shows deficits beginning in the early 90s when the thoroughbred horse farms began to be plowed under for subdivision. In contrast, other more rural areas show surpluses and O"Brien concludes that the surplus pattern would have been observed statewide absent land use changes. Ex. 13.

The DAEIS recognizes that land clearing along surface waters may affect aquatic resources through temperature changes, 4-178, but never acknowledges the larger implications of these temperature effects.

Irrespective of any minimal impact from the AMO, these studies by NASA, NOAA and state climatology scientists demonstrate local rainfall changes correspond to the massive changes in land cover experienced as Florida has been developed.

The potential effect on the local Florida climate, with the environmental and economic consequences which must result, has been entirely ignored by the DAEIS. This is scientifically insupportable. A large-scale removal of land cover, some of it permanent, and elimination of natural wetland and waterway features for decades at a time has an impact which should be studied and addressed.

**J. The Cumulative Impacts of CFPD Mining on Water Flows Are Never Addressed.**

As noted above, one must combine three maps (past mining, 4 additional mines and alternatives likely to be mined in the future) and many separate pages of data to identify the total mining impacting CFPD. Yet additional maps must be consulted to put those mines into context with the rivers impacted and the gaging stations used. When you do combine those maps you see that most of the CFPD, leaving out urbanized areas and a few state parks, has been mined or must be recognized as open for future mining. Nowhere does the DAEIS address the consequence of mining this vast area of west central Florida.

We know that mining the northern part of this area has had devastating effects on the Floridan aquifer (drops of 20-50 feet), on flows in the upper Peace River (totally dry in some locations, sinkholes and drying up of Kissingen Springs), on the amount of wetlands and on the total amount of stream lengths. The assumption of the DAEIS is that four more mines won't make the impact **that** much worse. Using the same analysis it apparently concludes that the next mines, which are not in fact alternatives, but are actually on the drawing board, will have the same result, they'll be worse but they won't be **that** much worse. Under this piecemeal approach there will never be a tipping point, we'll start off with serious damage, which we'll ignore, and we'll add 15% loss, and then another 15% loss, and then maybe another and we'll never recognize the cumulative damage. This is the approach of the DAEIS, but it is forbidden by NEPA.

**K. There Is No Discussion of the Impact of These Reduced or Impacted Water Flows on the Charlotte Harbor Estuary**

The DAEIS is missing any discussion of the impact of the proposed mines on Charlotte Harbor and its estuary, an estuary of national significance, an Aquatic Resource of National Importance (ARNI) and an Outstanding Florida Water (OFW). Both the Myakka, a Wild and Scenic River and itself an OFW, and the Peace discharge to Charlotte Harbor, meaning that the impact of existing mines, new mines and the Pioneer and Pine Level/Keys mines will all be felt at the same place, Charlotte Harbor.

The DAEIS quotes the CHNEP management plan: "When these rivers meet the salty water of the Gulf of Mexico, they form estuaries that are one of the most productive natural systems on earth." 3-53.

Reductions in flow mean that the salinity gradient in the harbor will change. See 3-107. As discussed in several studies provided to the Corps, the result can greatly impact estuarine species which require different salinities at different stages of their life cycles. Seasonal variations can be important, which makes the DAEIS focus solely on annual average flows irrelevant to the issue of the impact on these species.

The Peace, Horse Creek and the Myakka all serve as sources of drinking water for Charlotte, Desoto and Sarasota Counties and the cities of North Port and Punta Gorda. 3-84. The DAEIS never calculates the loss of flow, in particular the dry season loss of flow, and the impacts on those water supplies during low flow periods. It never considers the economic costs to the water supply authorities to provide supplies during low flows, when they may be unable to draw from the rivers. Ex. 8.

The DAEIS' sole answer seems to be that since the Peace River Manasota Regional Water Supply Authority can take water from the River, it doesn't matter if mining takes it too. See 3-54. There is a real difference, however, between using the water from the Peace to support residential uses necessary for the health and safety of 200,000 customers today, a present exigency, and planning that in the future one will be allowed to use water which would otherwise support the Peace to move dirt. The DAEIS instead goes on to wash its hands of any responsibility to look at this issue, saying, "Full characterization of the existing conditions within the lower Peace River and in the Charlotte Harbor Estuary cannot be adequately covered in this brief section of the AEIS." Id. Unfortunately they're never covered anywhere else either.

Nitrogen and phosphorus loadings to Charlotte Harbor are discussed below. It is admitted in the DAEIS, 3-92 to 93, that loadings are currently too high to protect the Harbor yet this crucial issue is also ignored in the Consequences section. Nor is any recognition given to the impact of these loadings in light of the demand by USEPA for adoption of numeric nutrient standards for these constituents.

The Corps assured downstream Counties that the AEIS will address Charlotte Harbor. Quite simply, the livelihood and future of these counties, Charlotte and Lee, depend on the health of Charlotte Harbor. These promises have been broken and the DAEIS is fatally deficient as a result.

**L. The DAEIS Fails to Consider the Impact on the Critical Habitat for the Federally Endangered Small Tooth Sawfish.**

The background section, and chapter 6 on compliance with environmental requirements, somehow manages to discuss listed species without any mention of the small tooth sawfish. 3-115 to 117. The Charlotte Harbor estuary has been listed as critical habitat for the juvenile sawfish. Since that designation the Florida Fish and Wildlife Commission has studied the juvenile sawfish and their initial results are reported at Ex. 17, http;//myfwc.com/research/saltwater/fish/sawfish/2010-report-charlotte-harbor-estuarine/. In their sampling most sawfish were captured **at the mouths** of the three major rivers, in areas with certain identified salinities, between 18 and 30 psu. Sawfish moved upriver with increasing salinity. There is a limit to this movement, however, as habitat size and carrying capacity is essentially decreasing.

Changed salinities due to reduced freshwater flows would appear to impact the sawfish critical habitat. More studies are underway; yet the DAEIS does not discuss the potential impacts, or, even better, support studies to answer some of these important questions.

**M. The Water Quality Discussion Fails to Consider the Primary Impacts on Water Quality from Mining.**

**-Studies by the state have shown serious water quality impacts from mining**-When actually studied, it is clear that phosphate mining operations have caused significant water quality impairments on streams within the CFPD. In 2004, as required by law, the FDEP prepared a TMDL (Total Maximum Daily Load) Report for Thirty Mile Creek, a tributary to the North Prong of the Alafia River in Polk County. www.dep.state.fl.us/water/tmdl/docs/tmdls/final/gp3/ThirtyMileCreekDOTMDL.pdf. See Ex.18. The report was required because of water quality violations in Thirty Mile Creek in which the dominant land use, "by far" was phosphate mining, over 61%. Agriculture was less than 15%, municipal discharges were considered insignificant. Id. at 19-20. Violations of standards for Total Nitrogen (TN), Total Phosphorus (TP) and Dissolved Oxygen were identified. Violations varied by season, summer being the most critical condition. Significantly, the report identified an unpermitted, unmonitored discharge from one of the phosphate mining areas which was very high in TN. Bottom line, this formerly mined area, also the site of beneficiation and chemical processing operations, was a significant source of water quality damage both within its watershed and downstream in the North Prong of the Alafia.

Similarly, a 2008 water quality inspection for the Kingsford mine and processing facility, closed in 2005, reported water quality violations of pH to the North and South Prongs of the Alafia, iron to Mizelle Creek and Radium 226 and 228 to the South Prong of the Alafia. ftp.dep.state.fl.us/pub/labs/lds/reports/9501.pdf. See Ex. 19. This is the same area as that addressed by the ThirtyMile Creek TMDL study. The South Prong of the Alafia was reported as showing "stress" from an upstream source. (Part I, page 3. Many more parameters were not sampled because of lack of FDEP lab capacity). Algal growth potentials at all sites in the area were well above the problem thresholds, including at the control site, indicating "there is nutrient enrichment related to the Mosaic Kingsford Mine discharge in this portion of Thirtymile Creek..." Id. at 5. Chlorophyll-a was also high, id., indicating the presence of algal growth. The discussion notes that the so-called control site, in the middle of the mining area,

was "cause for concern" indicating there may be a source of nutrient enrichment in that area of the mining operation. Id. at 6. Even closed sites and sites without apparent discharges present ongoing damage risks.

The background section of the DAEIS describes higher levels of magnesium, orthophosphorous, alkalinity and calcium and gross alpha activity at reclaimed basins, 3-88 to 89. It cites the conclusions of USGS studies that shallow groundwater in mined basins has higher levels of several pollutants (specific conductance, alkalinity, dissolved solids, calcium, magnesium, sulfate, iron, manganese and lead) than unmined basins, 3-99 to 100.

This FDEP and USGS data clearly shows water quality impacts due to mining, but rather than considering the USGS data in its own background section, or the well known problems with the Kingsford mine complex and ThirtyMile Creek, all of which show clear impacts from mining, the Consequences section, Chapter 4, instead chooses 6 other "reference" mines, currently operating, and takes **5 year average** discharge data, even though it acknowledges that actual sample results were highly variable, meaning that the average is both meaningless and misleading. 4-111. It describes this data as "water quality data" even though that is not the accepted use of the term (water quality usually means in-stream measurements, not discharge measurements). Nevertheless, it compares this discharge data, averaging 5 years of results, to water quality standards, an irrelevant comparison. The comparison tells you NOTHING about whether the discharges comply with NPDES permits or whether the total loadings discharged (measured concentrations time volumes) create a potential water quality problem in stream. See e.g. 4-107. The draft notes further that since discharges took place during high rainfall periods they were probably diluted. 4-111. This means the actual loadings of pollutants were probably quite high. In fact this dilution impact is specifically recognized by the MegaWUP permit for Mosaic. See Ex. 7. The pretended analysis of 6 mines is meaningless; it further does not begin to address the contamination found by USGS and the TMDL studies by FDEP.

Confirming the concern about use of average results, the DAEIS reports an occasion of invertebrate impairment downstream of Wingate Creek which it indicated may be due to "high rates of mine discharge." 4-117. While it notes that the invertebrates recovered, the point for the DAEIS must be that mine discharges can indeed have damaging impacts.

While it never recognizes the problems identified in the ThirtyMile Creek TMDL study, the DAEIS nevertheless pretends that the very fact that the TMDL program exists means that SWFWMD will fix any problems. 4-198, 328. This is clearly fanciful, the Kingsford mine closed years ago and nothing has changed. The Mims appeal of the Mosaic MegaWUP, Ex. 10, shows that in fact the mining company is using its aquifer withdrawals to dilute its effluent (an improper practice). The state is carefully avoiding any effort to identify problems, and the DAEIS is complicit in that effort.

Without calculation, and based on a discussion which excludes problems such as ThirtyMile Creek, the DAEIS concludes that water quality impacts are not at a large enough scale to cause measurable downstream impacts. 4-238. In support it cites Horse Creek monitoring, despite the fact that Horse Creek to date is relatively unmined. 4-239. While the Thirtymile Creek report shows that the DAEIS conclusion is in fact not true and that downstream impacts have been measured and are severe, the reality is that if you go far enough

downstream you can hide any impact. This apparently is the strategy of the DAEIS, go far enough outside the zone of influence that you can't measure the damage anymore. As noted above, this simply writes off the environment within the CFPD. It is improper.

The lessons from the ThirtyMile Creek reports are clear. The mining companies' NPDES reports do NOT tell the accurate story. NPDES violations, whether or not limited, can signal serious pollutant loading problems. Damaging water quality impacts are attributable to both mining and processing. Annual average or longer average data will hide these impacts. These impacts are NOT due to agriculture. Seepage and leaks from areas which are not permitted and not monitored are not only possible, they do in fact exist. Even allegedly clean points within the mining areas are in fact compromised. The state authorities do not have the resources to address water quality issues. And damaging impacts are experienced downstream. The DAEIS dismissal of water quality as an issue is simply indefensible.

**-The Peace is higher in phosphate than similar rivers in Florida, and has excessive loadings of other pollutants as well, but that is ignored by the DAEIS**.-The DAEIS at 3-90 admits that there have been past CSA spills into the Peace with generally degraded water quality. This is nevertheless dismissed because things have gotten better, though no data is given. Id.

In fact the USEPA's recent proposal of nutrient standards for Florida proposes phosphorous standards many times higher for Bone Valley rivers, even higher than for other Florida phosphate mining areas. This discrepancy, that somehow phosphate in the Peace and other Bone Valley rivers must be accepted, while tighter standards can be accepted in other mining areas, is never explained. (0.30 mg/L in the North Central region, which also has phosphate mining, versus 0.49 mg/L in the CFPD. See 3-92).

The background section of the DAEIS recognizes that there is a "likely need to lower nitrogen and phosphorus loading to upstream watersheds," 3-92. It goes on to recognize that the proposed 0.49 mg/L standard is "over twice the concentration targeted for protecting Charlotte Harbor." 3-93. The nitrogen standards are also twice as high as they need to be to protect the harbor, id., but the Consequences section says nothing about the issue except to speculate that FDEP and SWFWMD will have to step up their efforts in the future. 4-239.

We understand that water quality management has also been a problem in connection with the closure of gypstacks, with resulting releases causing very high levels of downstream orthophosphate. See Exs 8 and 20, comments of Ralph Montgomery.

Additionally, as discussed in our Scoping comments, April 20, 2011, and the Angelo letter of April 19, 2011, phosphate companies have successfully sought variances from water quality standards for dissolved oxygen for their former mine pits/lakes because the pits are too deep to support compliance with dissolved oxygen standards. The solution proposed by CF to this problem is that the fish would learn to breathe at the surface.

Bottom line, it is clear that phosphate and nitrogen levels in the Peace are too high, and DO levels in mining lakes are too low, but the DAEIS never addresses the issue.

**-The background discussion reveals loss of fish species and habitat in the Peace watershed but the Consequences discussion ignores the issue-**The background discussion at 3-102 to 103 identifies studies showing decline of fish species and attributing the decline to changes including loss of first and second order streams, eutrophication of lakes, loss of baseflow to streams, spread of exotics, and decreases in surface flow. The comments of Thomas Fraser, above, and Ex. 12, confirm this potential impact. All of these changes are likely results of mining, yet the Consequences section, again, declines to address the problem.

**-The water quality discussion at 4-111 reports the NPDES discharge data on a 5 year average basis and assumes that is an adequate discussion of water quality impacts. It is not.-** Water quality standards are never written in terms of 5 year averages, which, by definition, will obscure and hide the exceedances which actually affect water quality. Acute and even chronic violations can be totally hidden by 5 year averages. The Thirty Mile Creek data discussed above is a vivid example of the insufficiency of relying on long term averages.

**-The parameters monitored at NPDES outfalls are very limited and do not begin to address the universe of water quality risks-** Depending on the loadings allowed in a permit, a discharge may cause water quality violations even if it is in compliance with discharge standards. Any regulator or consultant knows this. The failure to acknowledge it in the DAEIS is indefensible.

Moreover, the NPDES discharge limits mentioned do not consider the numerous chemicals used in the beneficiation process, which may include hydrocarbons, including fatty acids, amines, fuel oil and others. In fact, nowhere in the AEIS are these chemicals even identified. At 4-198 the DAEIS congratulates the industry for discharging less of these mystery chemicals, which it still does not name. This is a serious and highly questionable omission. Any forthright consideration of the problem would identify the chemicals and test for them in the discharges AND IN THE GROUNDWATER SURROUNDING THE MINES, since the ThirtyMile Creek reports show that pollution does not necessarily leave the mine in a monitored discharge.

At 4-118 the DAEIS recognizes that beneficiation reagents may be an issue in CSAs, though again it does not name them. In fact at 4-167 to 168, it pretends that there are few wastes from mining, entirely ignoring reagent chemicals. It notes that monitoring wells have been required at some CSAs and provides data for a CSA at South Pasture. But, again, none of the parameters measured there are related to the reagent chemicals used (though pH problems were shown).

The USEPA's Superfund report on the Tenoroc mining site lists the beneficiation chemicals used as alkali (sodium hydroxide), tall oil (a mixture of rosin acids and fatty acids), No. 5 fuel oil, kerosene, amine and sulfuric acid. Ex. 21, at 7. It specifically cites mine and processing plant problems as "contamination of surface water and groundwater by fluorides, acids, heavy metals, and radionuclides." Id. It concluded that inorganic elements and radionuclides are concentrated through the beneficiation process and then "released back into the environment in the tailings and clay pond sediments." Id. at 18. Radionuclides and a significant list of inorganics were found at elevated levels. The report indicated concern for the groundwater exposure pathway and the surface water exposure pathway which was of

primary concern. Id. at 52. There are numerous Superfund sites associated with formerly mined lands in Florida. Ex. 22. This report information has been provided to the Corps. The authorities know there are problems, but they simply decline to address them.

The apparent reason for this head in the sand attitude by the regulators is found in the DAEIS at 3-100, and the Corps and its consultant seem almost embarrassed by the record. They cite a **1983** decision by FDEP, **in negotiation with the Florida Phosphate Council,** to require each mining company to take **ONE** sample of tailings water to analyze for the fuels and flotation agents used in beneficiation. The quotation in the DAEIS is from the 1983 document and is printed in its original type, apparently the Corps and its consultant don't even want to be responsible for retyping this ludicrous substitute for real analysis. Yet the DAEIS cites this 1983 deal as the reason for FDEP's "typically not requiring routine groundwater monitoring at phosphate mines." Id. Notably, the DAEIS states that FDEP also only requires compliance with groundwater standards at the border of phosphate mines, 3-101, with the result that, as discussed above, most of the groundwater in the CFPD will simply be abandoned to the mining companies. Unfortunately the Corps never discusses these issues in its Consequences section.

Ignoring all of this data, the DAEIS generally concludes that water quality is probably not a problem, and if it is, it will be diluted because discharges will occur during times of rain. 4-120 (referring to use by the City of North Port of Big Slough as a raw water source for its potable water supply). If CSAs are redesigned they may present less risk. 4-122. This is not an impact analysis so much as a fingers crossed hope that things won't be any worse than they have been in the past because violations will usually end up being diluted. It is meaningless in light of the failure to even discuss or consider existing data showing real problems, such as the Kingsford/ThirtyMile Creek data.

Very significant amounts of chemicals are also released at the fertilizer plants. The Federally mandated TRI or Toxics Release Inventory provides quantities of toxic chemicals released as reported by the companies. The most recent TRI numbers for Mosaic and CF are found in Ex. 23. The contaminants are worrisome (zinc, vanadium polycyclic aromatics, mercury, lead, ammonia sulfuric acid, and hydrogen fluoride) and the numbers are huge. Mosaic alone released 2,780,028 pounds of toxics in 2010 (after 1,771,488 in 2008, an increase of over 50%). It is highly improper for the AEIS to act as if this TRI data does not exist and to discuss water quality without taking it into account.

None of these serious impacts and potential impacts are discussed or even acknowledged in the DAEIS.

**-The water quality discussion also fails to consider the impact of spills on water quality.** There is extensive evidence that the phosphate industry is subject to spills from its clay settling areas and from its gypstacks and that those spills have had devastating consequences for the business and environment of Florida. A list of known spills was provided to the Corps in connection with the DAEIS. FIPR admits to some significant spills on its website. Water Quality, fipr.state.fl.us/Phosphate Primer. They include a spill into the Alafia in 1997 and two spills in 2004 from heavy rains. In addition to the listed spills, we know, and the Corps knows, that there were in fact intentional spill releases in 2004 at several gypstacks due to heavy rains. These releases were conducted pursuant to Consent

Orders issued by the FDEP because the gypstack wastewater management systems couldn't respond to the load. See our April 20 and April 25, 2011, Scoping Comments and Angelo April 19, 2011 submittal. See also Ex.25 (USEPA listing and studies of mining and mineral spill events).

Just at the beginning of July it was reported that the phosphate facility owned by PCS Phosphates in White Springs had spilled as a result of Tropical Storm Debby, confirming that spills are a very current problem. See Ex. 26.

The continuing drama of spills and threatened spills at Piney Point is referenced in Exhibit 27. In 2011 there was a spill of some 170 million gallons from Piney Point into Bishop Harbor (after earlier spills and responses described in our previous filings). In the most recent Piney Point developments the state sold the property to HRK Holdings to use the side for dredging spoils from the Port of Manatee. As HRK was facing bankruptcy, the state then waived the requirement that a protective dirt cover be installed on top of the site liner. The liner tore, eventually spilling 2700 gallons per minute of contaminated water ditches leading to Bishop Harbor and Tampa Bay, and leaving dredging residues. It was claimed that the state was aware of the torn liner. Just this week it was reported that another Piney Point spill may be imminent, with the state telling HRK that it must reduce water inputs at the site by 153 gallons per minute to avoid exceeding capacity by October 1. That was before Tropical Storm Debby. The so-called financial assurance requirements for managing the problem are essentially unsecured.

Acknowledging the importance of spill events, the SWFMWD MegaWUP proposed for Mosaic combines all Mosaic water permits into one (for mining and processing) and is based on the use of MORE water at its chemical plants during extra heavy rainfall years. This additional water is needed, according to Mosaic, to blend with polluted chemical-process water that must be discharged when storage ponds get full. Exhibit 6. In fact the proposed MegaWUP provides for average water use by Mosaic for chemical processing of 25 MGD and peak month use of 31.25 MGD. Exhibit 7. Of course, dilution of this effluent does not reduce the total pollutant loading of these discharges.

Ralph Montgomery in his comments to SWFWMD, and in his presentation to the USEPA's State of the Science conference on phosphate mining, also notes the problem of discharges from gypstacks during the closure period, when water management becomes a challenge leading to very high levels of orthophosphate discharge. See Exs 8 and 20.

The DAEIS may be setting up an argument that new CSA standards will prevent spills, therefore they need not be considered. But the history described at 3-153 to 154 disproves this approach. The draft acknowledges spills prior to the massive failure in 1971, and then describes a new spill design. No spills occurred for another 22 years, until two significant spills in 1994. At that point yet an additional new design was created in 1999. It has been 12 years since the new design. Based on the prior history of new design, and failure, one would think the authorities would not tout the success of the new design for at least 22 years, and hopefully more, since the most recent redesign.

The environmental impact of these spills, both intentional and not, from CSAs and gypstacks, has been inadequately studied but we know that it has been severe. The 1971 spill to the

Peace River resulted in the river running gray with CSA wastewater all the way down to Charlotte Harbor. Extensive fish kills were reported. 3-153. The effort to manage the wastewater from the abandoned Mulberry Phosphate gypstacks resulted in spills of process water to the Alafia River, threats to the valuable Bishop Harbor estuary and the dumping of barge loads of contaminated wastewater at sea. Many fishermen attribute the dead zone west of Tampa Bay to this dumping. Costs to close these abandoned stacks exceed $200 million, taken from the trust fund intended to reclaim formerly mined lands.

A fishing website contains the following description of the effects of the 1997 Alafia spill http://www.wmi.org/bassfish/bassboard/places_to_fish/message.html?message_id=231825:

> On 12-7-97 one of the phosphate companies spilled 50,000 gallons of acid which ran into the Alafia River (that runs into Tampa Bay). I have fished that river for over twenty years ( I live across the street from it). The spill killed everything in the river. It was so bad that the microscopic worms that live under the bottom died,. There was absolutely no life of any kind left in the river. I have been catching bass ( to 10 lbs), Snook (to 20 lbs), Redfish (to 10 lbs) and all sorts of freshwater panfish in that river for years. NO MORE !!! THEY KILLED IT GRAVEYARD DEAD !!! Some saltwater fish have started to move back in, but it'll be ten years before the river is close to what it used to be (that is if there's not another spill between now and then). The company that had the spill still hasn't been fined ! They are arguing with the State as to how many fish died. (Our government at work ! ).

In 2010 fishermen were allowed to sue Mosaic, then Cargill, for this same spill. The Florida Supreme Court said the company had a duty to protect the interests of commercial fishermen in the river, holding that Mosaic's business involved the storage of pollutants and hazardous contaminants and "It was foreseeable that, were these materials released into the public waters, they would cause damage to marine and plant life as well as to human activity." See Ex. 28.

The DAEIS pretends that CSA spills need not be considered, because, after several spills and two iterations of design improvements (there was another spill after the first), the industry may have finally designed better CSAs. 3-153-154. But it is clear that CSA spills are an industry problem, and have devastating consequences when they occur, no matter how frequently or infrequently. This is the reason that USEPA and international organizations study them, no matter where they occur or what kind of dam is involved, to try to prevent another. See Ex. 25. The problem is the failure of the impoundment, not what is inside it or what is spilled.

For the same reason, failing to consider gypstack spills by defining gypstacks out of the study is simply irresponsible. Gypstacks spill, a lot. In fact the Supreme Court says that gypstack problems are foreseeable. The failure of the DAEIS to acknowledge these issues and problems is breathtaking, and highly improper. The fisherman says "THEY KILLED IT GRAVEYARD DEAD!!!" The DAEIS must take notice.

**N. Exclusion of Chemical Plants and Gypstacks is Improper.**

**-Objection to exclusion of chemical plants and gypstacks from the analysis-** The DAEIS entirely fails to discuss chemical plants and gypstacks, apparently on the grounds that they involve a process subsequent to mining-the conversion of the mined product to fertilizer. See e.g. 4-168. This also is clearly improper.

The CEQ regulations require that an EIS include all proposals which are related closely enough to be, in effect, a single action, either geographically, because they occur in the same general area or generically because they include common timing, impacts and subject matter. 40 CFR 1502.4. An EIS must include direct, indirect and cumulative impacts. Direct impacts are those occurring at the same time or place, indirect impacts are later in time or farther removed in distance but are still reasonably foreseeable. The scope of indirect impacts is so broad that it may include growth inducing effects and impacts related to induced changes in land use, population density or growth rate. Cumulative impacts exist when the incremental impacts of the action, when added to past, present and reasonably foreseeable future impacts, regardless of what person or agency takes those actions, are subject to the EIS. 40 CFR 1508.

In the case of gypstacks, no imagination is required to understand their intimate connection to mining, their immediate geographical relationship ( they are located throughout mining country with impacts frequently inseparable from mining and beneficiation impacts-see discussion of Kingsford Complex/ThirtyMile Creek TMDL above), their treatment of the same phosphate that is removed from the mine itself and their horrific environmental and socioeconomic impact. The USGS 2010 MineralsYearbook, the government authority tracking the minerals industry, notes specifically that, **"All phosphate rock mining companies are vertically integrated, having one or more fertilizer plants, usually located near the mine."** Ex.29 at 56.2 (emphasis supplied). In fact most of the USGS data on production and sales is stated in terms of fertilizer production and sales. There are NO sales of phosphate rock alone in the US, only sales of fertilizer and processed phosphoric acid by the mining companies. Chemical plants and their gypstacks are an integral part of mining.

Basic chemistry must be recognized here as well. Phosphate rock is not soluble and can't be taken up by plants. 4-168. The phosphate rock, before processing, is useless. It must be processed to serve its function. No mine would exist were it not for the next step of chemical processing to make an actual product.

Mosaic, for example, touts its vertical integration (meaning its processing plant and gypstacks) as one of the reasons it is one of the lowest cost producers in the world. ICIS Chemical Business Magazine, www.icis.com/v2/companies/9146075/mosaic/financial.html, previously provided with the Angelo April 19, 2011 letter.

As noted above, SWFWMD also views all of the mining and processing operations as connected. The proposed MegaWUP for Mosaic combines all Mosaic water permits, for mining and processing, into a single permit. Ex. 7.

The state also treats the mines, the beneficiation plants and the chemical plants and gypstacks as a single operation. Gypstacks are built on the formerly mined land, 4-168, in fact they are considered to be a reclamation of that land for industrial use. When the horrific

gypstack spill occurred at Piney Point, the state took the money collected from the mining companies as severance taxes, and intended for reclamation of unreclaimed pre-1975 mined sites and **spent it on the emergency response for the gypstack,** with the full cooperation and assent of the industry and all regulators. No one gave a second thought to the argument that gypstacks and mines were separate and mine money shouldn't be spent on gypstacks.

The Ralph Montgomery comments, provided at Ex. 8, similarly point out that the gypstacks will grow as the mines being addressed by the DAEIS proceed, and closure of the gypstacks will lead to difficult downstream water quality impacts as the water removed from the gypstack is discharged. He cites already known orthophosphate problems from current gypstack closures.

The Corps' own staff briefing materials on mining address gypstack issues, both the location of stacks and the volume of phosphogypsum disposed and its rate of generation. Ex. 30. The Corps' initial website maps for this AEIS showed the location of the existing gypstacks, demonstrating the Corps' recognition of their importance for the AEIS. It would be ludicrous to pretend that the Corps should consider, as the regulations say it must, the population and land use changes due to mine permitting, but exclude the extremely dirty, noncompliant and risky process by which the mined materials are processed and their wastes left in large aboveground hazardous waste dumps, forever. One must be concerned that the Corps originally intended to include gypstacks in the AEIS until it received the instructions from Mosaic, discussed below at Section U and found at Exhibit 41, which stated that gypstacks should be excluded from the AEIS. **Exclusion of processing plants and gypstacks from any consideration of US phosphate mining is the creation of a myth with no connection to reality.**

Inclusion of processing plants and gypstacks is eye-opening. The ongoing production of gypstack waste associated with further mining is enormous. To make 1 pound of commercial fertilizer the phosphate industry creates 5 pounds of phosphogypsum slurry to be disposed in gypstacks. USEPA estimates that 32 million tons of new gypsum waste is created per year in Central Florida alone. USEPA further estimates that the current stockpile of waste in Central Florida gypstacks is nearly 1 billion metric tons. See also 4-168. Gypstacks in the CFPD range from 300 to 700 acres in size and may be as high as 220 feet. The surface includes areas of "loose dry materials." Active gypstacks in the CFPD cover 3200 acres. 4-169. There are 25 in Florida; 22 in Central Florida. Gypstack waste is radioactive and presents incredibly difficult management issues because of the large quantity of heated acidic wastewater produced in the stack system. See e.g. "Florida's Phosphate Wastewater Challenges," Onsite Water Treatment (Nov. 17, 2009). See April 19, 2011 Angelo letter.

The fertilizer processing plant operations themselves are also significant, and previous filings have demonstrated that USEPA considers them to be in violation of the hazardous waste rules of the Resource Conservation and Recovery Act (RCRA). See November 13, 2009 letter and Ex. A to that letter, found in Angelo transmittal of April 19, 2010.

Fertilizer plant processing uses large amounts of ammonia, with significant nitrogen discharges. Nitrogen as well as phosphorus contributes to the nutrient problem in Florida's rivers, which in turn contributes to downstream estuarine impacts. The DAEIS recognizes the

need to lower nitrogen and phosphorus loadings to protect the estuaries, 3-92. Exclusion of chemical plants and gypstacks simply conceals this problem.

The commenting groups have supplied the Corps with extensive material on gypstack issues in connection with the South Fort Meade extension permit. See e.g. November 13, 2009 letter and Exs. A. H, I, J, K, and March 19, 20010 letter and Exs. H, K, L, both in Angelo letter April 19, 2011. This material makes clear that gypstacks dwarf the actual mined product in volume, that they present an insoluble permanent disposal problem, that they are considered hazardous substances due to radioactive and other substances, that the fertilizer plants which produce them have serious USEPA permit and violation problems (providing another point of Federal agency action), and that it is clear that the financial assurances required by the state are nowhere near sufficient to deal with the potential costs of gypstack closure or response to spill incidents.

So what kinds of questions should have been considered regarding gypstacks? We understand Mosaic contends that no more fertilizer plants and/or gypstacks will be constructed. This means future production will go to expanding existing plants and stacks. Which plants and stacks are they? Are those plants and stacks properly permitted? What volumes of waste are anticipated? Is modification, upgrading or expansion necessary? Will any modification or expansion of older plants or stacks meet all current standards for windstorms and the like, and what bonds will be in place to insure proper handling? Will Clean Air Act new source permits be obtained for such modification, upgrading or expansion? What consequences and discharges can be anticipated on closure of the existing gypstacks. The Ralph Montgomery comments, Ex. 8,and the evidence of gypstack spills, show that gypstack discharges, including during closure, create serious problems.

The comments cited above demonstrate that gypstacks have had very serious ongoing problems with water management (the state simply provides consent orders to allow discharge of wastewater when the system became overloaded). The AEIS should provide calculations, based on real life weather variations, showing the ability to manage the water associated with gypstack systems under all circumstances.

## O. Radiation and Air Emissions Associated with Mining Present Serious Public Health Concerns.

**-There is no discussion of the serious public health impact from radiation as a result of the mining and processing activities**-Radium 226 and uranium are natural constituents of the phosphate matrix. In the natural state however, these constituents are diluted by the matrix itself and covered by 50 feet or so of other materials, sheltering the public from the effects of that radiation.

When the overburden is removed the matrix with its radioactive constituents is exposed. When that material is processed the radioactive constituents are concentrated in the process waste, the sand and clay from the beneficiation plant and the process water and waste gypsum from the fertilizer plants. When that material is disposed, in clay settling areas, back at the mine site in the mine cuts, or in gypstacks, the public can be exposed to that now concentrated radioactive material. Clay at a CSA may have 20 times the radiation of the

average Florida soil. Radioactivity and Phosphatic Clay Ponds, fipr.state.fl.us/Phosphate Primer. Ex. 24. The uranium and radium 226 convert to radon gas which is readily released and is a known health hazard. In the lungs it decays to other radioactive elements, so-called radon daughters, which present serious health risks.

USGS reconnaissance sampling in 1988-1990, showed gross alpha activity higher in mined than unmined basins, with gross alpha as high as 10.2 pCi/L (compared to 3.54 pCI/L in unmined basins). This was dismissed in the DAEIS as less than the Florida water quality standard of 15.0 pCI/L, 3-89, though clearly a one time test showing levels that much higher, and closer to the standard, in mined basins deserves further consideration. Other data at 4-107 shows 5 year average gross alpha levels at South Pasture as high as 12.27 pCi/L. It is pretty clear that if a **5 year** average shows levels close to the standard, there necessarily were numerous instances of violation of that standard. The draft confirms this in noting the high variability in the samples taken. 4-111.

In addition to the obvious point that gypstacks from phosphate processing are considered hazardous by USEPA because of their radioactivity, health studies done within phosphate processing plants, and even within the central Florida phosphate area, have shown increased lung cancer risks. These studies have been provided to the Corps in our letter dated April 20, 2011, at p. 17 and Ex. J. At the request of the Florida Governor, USEPA issued recommendations in connection with Florida phosphate lands, calling specifically for precautions in light of the increased radioactivity and lung cancer risk in particular. 44 FR 38664 (July 2, 1979). Ex. 31. See also 41 FR 26066 (June 24, 1976), Ex. 32. The Florida Department of Health publishes maps identifying areas of increased radon risk. These frequently coincide with formerly mined lands. Polk County, for example, is covered with them. Ex. 33. Past EIS studies of phosphate mines have included radiation, as the DAEIS acknowledges. See 1-27 to 1-28. The DAEIS recognizes that urban development has occurred on former mined phosphate lands and is expected to continue in the future. 4-182. Current residents, and those that might be affected in the future, deserve an analysis of the radiation issue.

USEPA's recommendation specifically mentions that "future residential development on phosphate lands is likely to result in a public health hazard unless appropriate land reclamation and preparation, as well as home siting and design requirements, are imposed." 44 FR 38665. The use of clean fill is specifically mentioned. Id. The DAEIS must recognize this issue and address possible mitigation and remediation measures, such as required use of layers of clean fill on top of problematic areas. This goes beyond current mining reclamation practice in which permits don't address radiation risks and even allow exceptions to topsoil requirements when it is not feasible.

The industry in the past has advanced numerous arguments that there is some kind of debate among the authorities about the standard which should be applied to radiation, state or federal. That argument is repeated in the AEIS, 3-152 to 153, but it is simply wrong. The industry and the Corps well know that under CERCLA the standard is "applicable or relevant and appropriate" requirement (ARAR), which means the federal or state standard, **whichever is more stringent.** They also know that the USEPA's standard is 4 picocuries per liter of air (pCi/L), which may be frequently exceeded by phosphate mined lands. They further know that, despite its soothing assurances about comparisons to the radiation we get from xrays or

plane flights, the Department of Energy enforces a standard called ALARA, As Low As Reasonably Achievable, because there is no lower level "safe" limit for radioactivity. As a federal agency the Corps may not ignore the federal standards for radiation.

USEPA aerial surveys of phosphate lands, in particular the former Coronet Industries site, have shown radiation levels from 20 to 40 picocuries per gram of soil. By comparison, natural soils in the region have less than 2 picocuries per gram. Ex. 34. The Environmental Groups are aware that this issue has become highly political, with politicians seeking to bar the USEPA from further aerial surveys of phosphate lands to identify radiation issues, citing the negative impact on tourism, development and the phosphate industry. See e.g. Ex. 35. It is clear, however, that political sensitivity does not change NEPA requirements and that aerial surveys are in fact well-correlated with ground measurements. Id.

Despite a great deal of evidence that radiation is a known phosphate health risk, at the former mines, the CSAs, the beneficiation plants, the chemical plants and gypstacks, the DAEIS unaccountably fails to even discuss the issue of radioactivity as an impact. This is manifestly improper and a violation of NEPA and its regulations. Beyond that, the unwillingness of the Corps to address a clear public health risk is irresponsible.

**-The AEIS fails to consider the impacts of air emissions from mining and processing-** Dust caused by widespread strip mining operations is a serious problem from mining that is not addressed by the AEIS. Exhibit 36 provides several pictures of dust at mine sites. Yet the DAEIS discussion does not mention dust at all. See 4-165. Fugitive dust is not just an annoyance, though it is that; it presents health risks which are recognized by the many states with fugitive dust regulations, and it presents significant costs and maintenance problems for homes and businesses. Ex. 37.

Beyond the annoyance of the dust itself, the public health studies previously provided in our letter of April 20, 2011 addressing phosphate processing plants and the Tampa Bay area in general have shown elevated levels of lung cancer. This raises significant public health concerns for the impact of the fugitive dusts raised by phosphate mining and processing. In processing plants "dust can be an irritant and can contain naturally radioactive particles, so workers in dusty areas wear dust masks." Air Quality, FIPR Phosphate Primer, fipr.state.fl.us/Phosphate Primer. Ex. 24. Such dusts will also contain fluorides, id., so human or animal exposure is undesirable for many reasons, yet there is no discussion in the AEIS of these impacts.

## P. The DAEIS Fails to Consider the Economic Value of the Resources Lost to Phosphate Mining or the Costs to the Public of Mining

**-The economic analysis entirely fails to consider the economic value of the natural resources taken or placed at risk by the mining proposals-**The Environmental groups have supplied the Corps and its contractor with extensive evidence of the economic value of the natural resources Charlotte Harbor watershed and have urged the drafters to include this issue in their analysis. The Corps and drafters have also worked with the CHNEP, which has studied these issues extensively. Despite this, the DAEIS does not consider the value of these resources, the risk of their damage from loss of water flows, spills or chronic water quality impacts.

A 1998 CHNEP report, previously sent to the Corps, provided an estimate of economic value of the resources of the CHNEP watershed. In November of 2011 Jim Beever of the Southwest Florida Regional Planning Council adjusted the 1998 values to 2010 dollars. For the study area the direct and indirect income attributable to natural resources was:

Tourism and Recreation $3.08 Billion
Commercial and Recreational Fishing $182 Million
Agriculture $940 Million
Mining $378.4 Million

The incremental value of real estate associated with bay front, ocean front and riverfront property was NOT included, but obviously would substantially increase these values. Note that Mining is only slightly over 10% of the total, yet the value of the natural resources of the area for purposes other than mining was entirely omitted from the draft AEIS.

Another way of looking at the economic value of the natural resources of the area is provided by a 2011 study prepared for the Everglades Foundation, "The Economic Impact of Recreational Tarpon Fishing in the Caloosahatchee River and Charlotte Harbor Region of Florida," Ex. 38. That study surveyed the licensed saltwater anglers actually resident in Charlotte, Collier, Lee and Sarasota Counties about their days of tarpon fishing and their expenditures and then considered indirect economic impacts as well from those expenditures. The yearly total was over $108 million, including over $33 million in local salaries, wages and business owner income and over 1000 full time jobs. This number understates the totals because it doesn't include the many nonresident tourists attracted to the area by the tarpon resource, but it demonstrates the extraordinary value of the natural resource of Charlotte Harbor in just one isolated area, tarpon fishing. Other sources are available which provide well-researched values for Florida's natural resources, sometimes called "ecosystem services."

With these examples, the failure of the DAEIS so-called "economic analysis" to consider anything other than phosphate income and expenditures is laughable.

**-The economic analysis also ignores some substantial additional costs of mining.-**The discussion above notes some of the economic costs to the public already caused by mining. Extensive aquifer pumping, by mining and others, and the lowering of the Floridan Aquifer, leading to damaging saltwater intrusion, have led SWFWMD to create the Southern Water Use Caution Area or SWUCA. Within the SWUCA, residents and other users are required to limit their water use. Use of the aquifer resource by mining has directly impacted hundreds of thousands of residents. This cost is ignored by the DAEIS.

The comments of Ralph Montgomery, provided as Ex.8, specifically note the failure of the DAEIS to address water impacts cumulatively and the fallacy of using only annual average data which hide the significance of seasonal low flows. Addressing the issue from the standpoint of public water supplies (the comments were prepared for the Peace River Manasota Public Water Authority), Montgomery notes the possible need to obtain additional storage capacity or additional water sources if the failure to consider low flow circumstances means that the Authority will not be able to withdraw water from the Peace or if reduced flows

in the Big Slough means that the Authority will have to make up the difference. These very substantial costs have not been considered by the DAEIS.

The DAEIS discussion of the value of mining includes severance taxes. Those taxes were supposed to go to a fund for reclamation of pre 1975 mined lands. Instead they had to be used by the state to respond to the disastrous gypstack spill at Piney Point, an issue which is not yet resolved. It is entirely improper to consider these severance taxes as a benefit of mining. Rather they constitute a cost to the public for the damages due to mining.

Similarly, our previous submissions have provided an analysis of serious shortfalls in the bonding provided for gypstack closure. As revealed at Piney Point, where industry funds fall short the public must pay the bills. These costs are also ignored by the DAEIS.

The DAEIS makes some other insupportable claims for the benefits of mining, e.g. that the mining companies provide wildlife networks at no cost to the public, 4-203, or that the companies contribute to local conservation through ad valorem taxes, 4-204. Everyone pays ad valorem taxes and presumably the mining companies benefit, like the general public, from this effort. Mitigation efforts are required by law in replacement for wetlands destroyed. Where they lead to wildlife networks, or other conservation properties, they are very rough, and insufficient, compensation for wetlands losses due to the mining itself.

Further, it is clear that clay settling areas, in addition to their damage to groundwater and surface water systems, are likely permanently lost to productive use. USGS sources, discussed above, estimate CSA coverage at between 40-60% of the mine site. FIPR itself acknowledges that under the crust which eventually forms the clay "is still the consistency of pudding" with only about 25% solids, which limits the amount of weight it can support. FIPR is generally positive about all things phosphate, but even FIPR is at a loss when dealing with CSAs. It concludes, "uses are limited by the properties of the clay that leave the settling areas unstable." fipr.state.fl.us/Phosphate Primer. Ex. 24. Any economic analysis must recognize the permanent loss of value of CSAs.

The DAEIS further does not consider the lost opportunity cost which results from the dedication of such a large proportion of our ground and surface water to mining. This cost will grow larger as agriculture and population grows, as the DAEIS indicates it will, but the groundwater allocations are capped or even lowered, with the result that wastewater reuse, reservoirs, and costly conservation measures are required, or development is even impeded. It should also include the extensive damage caused by lowered water tables. Recently that damage has included sinkholes which develop when agriculture overpumps in order to protect crops in freezing weather. While agriculture is the immediate cause, the ultimate cause is the water table already reduced by phosphate pumping. The result has been substantial property losses and increased insurance costs.

A number of formerly mined sites are on the Superfund list in light of continuing contamination. One site, Tenoroc, has already been addressed, though it still presents some contamination issues). USEPA has sought to do overflights to identify radiation readings on former mined sites; these have been blocked in large measure for political reasons, but it is clear that the Superfund law (the Comprehensive Environmental Response Compensation and Liability Act or CERCLA) does apply to these sites and will eventually mandate cleanup.

These cleanup costs may have to be paid by the public, if private industry is no longer available. This cost is never considered by the DAEIS.

The DAEIS ignores the value of its natural resources to the future of the state. In "Mirage, Florida and the Vanishing Water of the Eastern U.S., Cynthia Barnett quotes former governor Reubin (sp) Askew as saying, "Ecological destruction in Florida is nothing less than economic suicide." Ex. 13, at 54. These issues belong in the AEIS.

**-The DAEIS purports to contain a study of the economic value of mining. It is improperly prepared and grossly inadequate.-** The DAEIS contains a study prepared by EcoNorthwest on behalf of Mosaic, using a model called IMPLAN, and pretends that this work constitutes an independent analysis of the economic value of mining. It is improperly prepared and entirely inadequate.

Exhibit 39 is a critical analysis of the EcoNorthwest/DAEIS work by Professor Richard Weisskoff of the Department of International Studies at the University of Miami. Professor Weisskoff's work was done on behalf of the Florida Chapter of the Sierra Club. Professor Weisskoff has done extensive work on the economic impact of environmental and mining projects in Florida, including a study for the Corps of the economic impact of Everglades Restoration. Some of his experience is outlined in Ex.39. He has previously prepared studies of the economic impacts of mining in Hardee and Desoto Counties which have been provided to the Corps.

The Sierra Club obtained the worksheets supporting the DAEIS economic modeling from the Corps and provided them to Professor Weiskoff. The Corps is referred to Exhibit 39 for a full discussion of Weisskoff's findings, but a brief summary is provided here:

-The DAEIS/EcoNorthwest approach uses the IMPLAN model (AEIS-IMPLAN) to assume the economy is essentially frozen throughout the period studied, not accounting for issues such as the increase in value of Hardee County agriculture, despite loss of acreage. Freezing the economy from 2012 to 2060 undervalues the dynamic sectors such as agriculture and favors capital-intensive sectors such as mining.

-Agriculture actually should increase in value over the period. AEIS-IMPLAN does not allow this. The USDA publishes Outlooks for all agricultural branches, and the US Census publishes county accounts in the Regional Economic Information System (REIS) and these should have been consulted, but weren't

The DAEIS then goes on to minimize or omit losses to the total farm sector, by pretending that reclaimed land is put back into the farm inventory. This is invalid because all of the land cannot be put back into inventory as it is used for CSAs, and lakes carved out of mined land. Estimates are that at least 25% of land is lost to agriculture. The DAEIS assumes 3.6%. This greatly underestimates the loss to agriculture from mining. The scenarios to be compared should be the difference between the GROWING agricultural economy without new mines and the losses from the removal of that growing activity compared to the claimed gains from the new mines.

-The DAEIS also substantially undervalues the agricultural sector by counting only part of it, leaving out "Services to Agriculture", which in fact is the largest single sector. **Properly computed the "Agriculture cluster," with services and the agriculture branches totals 3221 jobs, compared to the mining cluster's 211 jobs.**

-Agriculture is more valuable to the counties in other ways. Both workers and owners live in the counties and their income is recycled into local businesses. Mining profits, in contrast, are sent to the home office (in Minnesota) and reinvested elsewhere, such as the purchase of a new mine in Peru. Only 1/3 of the mining value added goes to labor, and, if the workers live in Hardee County or Desoto County, it is only this amount plus the county share of severance taxes stays in the county. With the loss of ag workers the old towns like Ft. Meade and Bowling Green have become ghost towns. This is possibly the future for Wauchula.

-Weisskoff's own economic studies using the Original IMPLAN data find that the Output multiplier for agricultural output is 1.254, compared to 1.176 for mining, meaning higher outputs for agriculture in direct, indirect and induced effects. (1.254 means that a $1000 investment for agriculture will result in $1254 of direct, indirect and induced effects. This is a 6.6% advantage for agriculture. But the employment advantage is even higher. The agricultural employment multiplier is 12.5 jobs per million dollars versus 4.60 jobs per million dollars: 73% higher for agriculture. While mining may create greater value in output and property value (profits), **agriculture creates both labor value (in agricultural services) and property value (profits) in farming, and many more jobs.**

-Weisskoff points out that the EcoNorthwest/DAEIS IMPLAN data for Hardee County does not provide its source data and is directly contradicted by a study done by Grace Johns in 2005 for the Hardee County Commissioners. The differences are significant, e.g. 694 jobs created according to the DAEIS IMPLAN for Ona mine versus 71 with a beneficiation plant and minus 11 jobs without one, according to Johns. The DAEIS values for different sectors are also very different from the Johns work in the past, the DAEIS value for mining being almost twice as high as the past studies, and the value of agriculture less than ½ as much. The DAEIS does not acknowledge the discrepancies, or provide reference to the sources used for its input, and it does not properly account for lost agricultural jobs, including losses associated with the potential yield of reclaimed land.

-Weisskoff also reviews the DAEIS data entry worksheets and finds significant discrepancies with his own and others prior work, with no explanation of the source of the DAEIS data entries, which must be considered unsupported. The DAEIS numbers are simply not credible.

-Weisskoff also notes that Regional Economic Modeling Inc (REMI) is the correct model to use in a growth situation, not IMPLAN, to account for the big picture in a macro-dynamic sense. The DAEIS analysis uses IMPLAN inappropriately by freezing present technologies and not taking into account the full cost of displacing the dynamic and growing agricultural sector and its linkages. The DAEIS overvalues the relatively short period of mining income; mining being an industry with very little local connectivity relative to the agricultural activities it displaces.

Weisskoff concludes that the DAEIS results use an inappropriate model, freezing the present technologies and not taking into account the full cost of displacing the valuable agricultural sector. The DAEIS results are simply not credible. He points out a number of areas in which they ignore accepted studies and fail to recognize the value of agriculture.

## Q. The DAEIS Fails to Consider Environmental Justice

The AEIS must discuss environmental justice, and the DAEIS has a section which purports to do that, but it ignores significant, and quite evident environmental justice issues.

At 4-151 and 153 the DAEIS identifies census tract 970300 as containing both a higher minority population and higher levels below the poverty rate. The map at 4-153 suggests that this tract is at R-2, in close proximity to Ona, Wingate East and the South Pasture Extension and smack dab in the middle of the mining area.

It appears the population of 970300 is likely farmworkers, 3-136, who will be displaced from their jobs from the mining expansion, as well as being affected at their homes. It is clear that there is little likelihood that the jobs which the DAEIS claims will be created by mining will benefit this population.

Other data in the DAEIS mirrors these concerns, on a larger scale. Chapter 3-127 shows the population breakdown for Hardee and Desoto Counties, in contrast to the other counties impacted. Hardee and Desoto have over 26% living under the poverty level, easily meeting the CEQ definition of over 20%. Desoto has 30% Hispanic, 13% Black or African American and almost 18% Other, for a total minority population of almost 44%. 3-132 to 133. Hardee County has 7% Black or African American, 43% Hispanic and 17% Other for a total minority population of 52%. Id. (Note that the graph at 3-133 appears to have a consistent error in that the percentages of white populations, added to the minority populations, are well over 100%).

Further, Hardee and Desoto are dominated by agricultural employment, 95 and 84% respectively. 3-136. We have previously provided studies demonstrating the economic impact of agriculture on Hardee and Desoto Counties and the consequences of loss of those agricultural jobs. While the loss to the economy as a whole is important, the particular loss to the farmworker population, with its substantial component of minority populations and populations below the poverty line, demonstrates that the proposal will have a disparate impact, violating environmental justice standards.

Finally, the Florida Institute for Neurological Research (FINR) is located in Hardee County. This institute, which cares for those with neurological disabilities, employs some 500 people and performs an extremely vital service. Management believes that mining nearby, with noise, dust, and disruption will be extremely damaging to its patients and has sued the mining company. Disruption of this disabled population also violates environmental justice standards.

## R. The DAEIS Fails to Contain a Public Interest Review

The Clean Water Act requires that a public interest review be conducted to support the issuance of a permit under section 404 of that Act. We understand that USEPA has urged the Corps to conduct a public interest review in the AEIS. Clearly that has not been done. Indeed, as discussed below, the bias shown in the document, and its domination by the mining companies, indicates that the public interest has been pushed to the background throughout the discussion.

A public interest review is also contemplated by the Corps' own Environmental Operating Principles (EOP) which call for its decisions to achieve environmental sustainability, seek balance and synergy among human development activities and natural systems, and accept responsibility for activities that impact human health and welfare and the continued viability of natural systems. The commitment contained in the EOPs should be a part of the DAEIS.

We believe a discussion of the public interest is required by NEPA and we urge that the DAEIS contain such a discussion.

**S. The DAEIS Fails to Consider Several Very Viable Alternatives and Mitigation Opportunities.**

**-The DAEIS improperly refuses to discuss importation of phosphate rock as an alternative-**The DAEIS gives substantial space to the value of phosphate and its importance for the world market but refuses to consider any alternative other than the mining of phosphate from the CFPD. This is manifestly improper. The world is full of phosphate. Refusing to consider any other source is a transparent effort to serve the interests of the permit applicant-not to conduct a proper EIS.

Professor Weisskoff also assembled data on the role of the Florida phosphate industry in the world market for phosphate and phosphate fertilizer. His report is attached as Ex. 39, Part 1. Analyzing data from the USGS and the International Fertilizer Association (IFA) Weisskoff finds that the US has 1.2% of the world phosphate rock reserves, but produced 14.9% of the world supply in 2010, falling from 25.3% in 2000.

Of course phosphate rock is only the first stage of the process, and the CFPD producers do not actually sell phosphate rock (no phosphate rock is exported), rather, with the addition of sulfuric acid to make phosphoric acid, and then ammonia, two major phosphate fertilizers, DAP and MAP are manufactured. The US has retained a dominant share of more-or-less one quarter of the world's supply of these products. In exports the US role is even more dominant: 31.7% of MAP (in nutrient content), 26.1% of DAP and 27.6% of combined MAP and DAP exports worldwide originate from the US. Only 9.1% of phosphoric acid is exported, it is instead retained in the US to be converted to fertilizer for export.

A number of fertilizer plants in Louisiana and Texas do import rock; beginning in 2010 and 2011 large scale imports started arriving from Morocco and from the newly-opened Peruvian mine jointly owned by Mosaic. By 2010 imports accounted on 11% of rock reserves, up from 5.8% in 2000.

This rock, that imported and that produced domestically is converted to fertilizer---FOR EXPORT. Almost half, 47.6% of the combined MAP-DAP nutrient tonnage produced in the

US was exported in 2011. When compared to the 1.2% of global reserves held in the US it is clear that we are shipping our valuable phosphate resource abroad. Weisskoff concludes:

"Thus, the Florida advantage is due to low cost and historical location, access to ocean transportation, cheap energy, negligible taxes, and minimal land reclamation costs, The real cost to Florida society is the loss of first class farm land, the accumulation of toxic waste, and the potential destruction of the water downstream supply."

The USGS assembles regular and comprehensive data on world and US sources of phosphate. Its 2010 Minerals Yearbook and its most recent yearly report for 2011 are attached as Ex 29. Major worldwide sources include Morocco and Peru, which supply phosphate to the US, including to Mosaic. The 2011 report lists many stable countries with existing and expanding phosphate production, including Morocco, Australia, Canada, Peru. In fact world production is projected to increase 20% from 2011 to 2015, with the largest increase from Morocco. The world is awash in phosphate.

The pretense that import of phosphate rock is not an available alternative is further belied by the fact that it is happening, and happening right now. The 2011 USGS report states that in 2011 "US imports of phosphate rock were estimated to have increased by nearly 1 million tons from those of 2010 because of imports of phosphate rock from Peru, where the leading U.S. phosphate fertilizer producer has a 35% stake in the only phosphate rock mine in that country." The Peruvian phosphate was used in part when Mosaic's South Fort Meade-Hardee County mine operations were halted by an injunction (for failure to prepare an EIS), but it is notable that Mosaic was able to use that imported material to keep operating, and make a nice profit. In fact three US fertilizer companies rely entirely on imported rock from Morocco. Id. Clearly operating with foreign phosphate is well within the contemplation of the phosphate companies. The refusal to consider this alternative is simply a reluctance to follow the mandates of NEPA.

Further, as Weisskoff and the USGS publications make clear, an unfortunate result of the Corps/mining company alliance to mine as much phosphate as possible no matter what the environmental consequences is that US phosphate producers, with less than1.9% of the world's reserves, are nevertheless supplying almost half of the world's phosphate fertilizers. We are shipping our valuable phosphate resources abroad. It is clear, once you look at the actual data, that the world does not need our phosphate, rather this depletion of our own supplies is being done entirely so that Mosaic and CF can make as much money as possible with these resources.

Clearly it is attractive financially to operate the fertilizer plants-as noted above, every mine has associated fertilizer plants, while fertilizer plants can readily be operated without the mine. We know from FIPR and the DAEIS itself that phosphate reserves in the southern part of the CFPD, the area for which permits are now sought, are deeper and of less desirable quantity and quality, with more contamination from dolomite. An alternative which calls for less mining but continued fertilizer production with some imported phosphate is clearly feasible and should have been explored.

Consideration of this alternative does not require extreme measures. Below we discuss the reasonable alternative of stepping back mining from rivers, streams and wetlands, thus

allowing mining to continue without the severe impacts experienced in the past. Any shortfall of phosphate to supply fertilizer production can readily be made up with imported phosphate. Other companies are doing exactly that. Failure to consider such a reasonable compromise is inconsistent with NEPA.

**-The DAEIS failed to consider transportation methods which would reduce the extraordinary water use of the phosphate mines**-Phosphate mining as practiced in Florida uses monstrous amounts of water. Mosaic has an overall permit for almost 70 MGD. Total usage is 85 MGD. While the DAEIS claims that these full amounts wouldn't necessarily be used except in drought years, in fact drought years are the very years when everyone else and the environment needs the water as well.

Florida phosphate mining uses so much water because the water is used as a transport medium to slurry the phosphate to the beneficiation plant and then to slurry the sand and clay back to the mine cuts. This is a very wasteful use of water. An important state resource is being provided, **free,** to the phosphate companies so that they don't have to pay for transportation. The AEIS comments that if phosphate mining were to phase out there would be great demand for the phosphate water allocation. This is an amazing admission. **Everyone else needs that water too.**

This wasteful use of water is not an inevitable result of phosphate mining. The USGS Yearbook, at 56.2, Ex. 29, notes that in Idaho and Utah, "phosphate rock was sent from the mine to the processing facility **via truck, rail,** and slurry pipelines." (emphasis supplied.) In an Australian mine beneficiation is by dry screening and then trucking for further processing. Yearbook at 56.3, Ex. 29. Morocco transports its phosphate by conveyor belt. "Phosphate: Morocco's White Gold", Bloomberg Businessweek, November 4, 2010, www.businessweek.com/print/magazine/content/10_46/b4203080895976.htm.

The DAEIS itself points out that other EIS documents in the past have discussed transportation alternatives. 1-27 to 1-28. Clearly transportation methods which reduce the extraordinary and extraordinarily damaging phosphate water use are available. Failure to consider them is a violation of NEPA.

**-The DAEIS fails to consider a reasonable buffer proposal-**At 4-154 et seq. the DAEIS purports to consider a proposal to provide for nonmining buffers around streams. But the buffers analyzed in the document are 1500, 3000 and 6000 feet, much larger than buffers applied or studied in the past. 4-154. The analysis indicates little if any mineable area left after application of the extreme buffers studied.

Ralph Montgomery commented on the buffer selection criteria, wondering why the DAEIS didn't select the "many instances of environmental buffers being applied in Florida with ranges from 1500 feet down rather than up." Ex. 8 at 17. He noted that, "A cynical observer might suggest that the unreasonably large buffers were selected to fail, rather than using a more reasonable approach based on existing buffer criteria used in other instances..." Id. He recommended that this section of the document be redone using reasonable buffer distances "given the amount and distribution of wetlands/streams/high value habitats on the proposed sites." Id. at 2.

Montgomery's seems like the obvious approach; yet it wasn't done. It appears that the computer set up to run the numbers for more reasonable buffers must exist. Failure to do so represents a failure to take a real look at buffers in the DAEIS. A reasonable buffer applied with provisions for avoidance of high quality habitat, 4-38, should have been considered.

**-The DAEIS recognizes the benefits provided in the past by buffer zones, withdrawal limitations and conservation acquisitions but never discusses these as mitigation measures.**-At 4-178 the DAEIS specifically notes that in the past factors that have minimized some of the potential impacts of mining have been conservation acquisitions, water withdrawal limitations and non-development zones such as buffers or setbacks. Despite this clear recognition of the value of these efforts, these mitigation strategies, aside from a very simplistic and overreaching discussion of stream buffers, discussed above, are not discussed in the DAEIS.

A powerful example of conservation acquisition, and buffers, is Mosaic's recent acquisition of the Peaceful Horse Ranch, a Florida Forever parcel bordering the Peace River and Horse Creeks, for use as a state park. See also 4-183 (Donations of Peace River Park and Hardee Lakes Park). Conservation easements and setbacks along the Peace will also be part of the South Fort Meade extension mine. This approach, targeted to areas of high quality habitat and ground and surface water protection, is much more useful than the geometric drawing of extreme stream setbacks which the DAEIS pretends to consider. See e.g. 4-154 et seq.

The DAEIS does provide the data for a useful approach to identification of the most desirable habitat for preservation at the proposed mines. See App. C. A very reasonable mitigation strategy might include a combination of range of buffers along with preservation areas in the most high value locations at a site. While we believe the data must exist for such an approach, it unfortunately is not addressed in the DAEIS. We encourage its inclusion in the final document.

Oddly the DAEIS assumes that conservation easements will be required in future, 4-205, without recognizing the need to consider them as part of the DAEIS mitigation. Unfortunately the mining companies' own permit applications show almost no land set aside for conservation. Compare 4-38 to 4-96, which shows that past preservation at mine sites has averaged 15% compared to much lower numbers in the proposed permits, only 6%, for example, at Desoto. The mining companies do not conserve land willingly, the issue must be addressed in the AEIS and conservation mitigation specifically called for. One must be concerned that the failure to discuss this issue is because Mosaic told the Corps not to, see discussion at Section U, below.

**-The evaluation of alternative locations for mining within the CFPD reveals that the process is a charade**-The alternatives chosen for evaluation simply involve alternative sites for mines within the CFPD. Two of those so-called alternatives are in fact future Mosaic mines, not alternatives at all, just mines that are allegedly beyond the Corps' artificially imposed time line for the AEIS. Other alternatives involve taking every other available parcel of land within the CFPD, grouping them in polygons, and using elimination screens to determine whether any polygon is otherwise unavailable. Urban areas are eliminated as well as parcels too small for efficient mining. **Thus the assumption of the alternative analysis**

**is that the entire CFPD is to be abandoned to mining, unless someone can make a darn good argument that it should be saved.** This is antithetical to the AEIS process which is to consider alternatives to the environmental damage, not to outline places where more damage could be done in future.

The analysis reveals other flaws. The so-called alternatives are eliminated if they contain highly valuable environmental parcels. But there is no comparable point at which the four mines under evaluation can be eliminated for the same reason. Three of those mines directly impact Horse Creek, one of the few remaining undamaged tributaries of the Peace River and widely acknowledged to be an environmental gem. Despite the fact that this is an **environmental impact** statement, there is no point at which the drafters recognize, "holy cow, we're about to allow three mines along Horse Creek." Not only is there a failure to acknowledge these cumulative impacts, there is also no point at which the environmental significance of this stream as a whole is recognized and examined. The alternative review method chosen is a pretense, not a true examination of alternatives.

**-Permits should be limited in time and mitigation should be monitored.**-USEPA has urged that 404 permits issued by the Corps be limited in time (e.g. 5 years) so that corrections and adjustments can be made if needed. This concept is consistent with the Council of Environmental Quality (CEQ) mitigation guidelines which require that permits be reviewed, mitigation monitored and supplemental EISs prepared, if necessary, to respond to changes in circumstances. This alternative and mitigation strategy should be, but is not, addressed in the DAEIS.

Throughout the DAEIS the document makes very questionable assumptions about future events. One of the most obvious, and troubling, is the assumption that SWFWMD limitations on groundwater use will be enforced without change and will prevent any increases. This assumption underlies all of the groundwater discussion. There is also an assumption which permeates all discussions that wetlands restoration is effective, an assumption presented without evidence. Other assumptions are based on an actual, or pretended, lack of information, which the Corps declines to assemble, e.g. radiation exposure data for formerly mined sites, groundwater monitoring around CSAs, mines and processing plants, analyses of before and after mining impacts for Little Charlie Creek, and etc. If and when this information becomes available it could dramatically change the basis for the DAEIS analysis and permits and their terms may need review and reconsideration.

Shorter term or reviewable permits are urged by the agencies charged with protection of our natural resources and should be considered in the DAEIS. The DAEIS should require that the effectiveness of permit compliance and mitigation be monitored and supplemental EIS documentation prepared if assumptions are not borne out in practice.

**-The Corps' choice of CFPD and its Purpose and Need make true alternatives and mitigation impossible**-We have noted above that the definition of the CFPD is improper and that the purpose and need statement makes mining of almost the entire CFPD inevitable. Demonstrating the impropriety of this approach, there is no point at which the AEIS calculates the cumulative number of wetland acres and stream miles to be lost to mining and considers whether there is even enough capacity in the Peace, Myakka and related watersheds to make up that loss in mitigation. In addition to the failure to make a cumulative assessment,

**the AEIS has defined a study area and a purpose and need statement which make mitigation impossible.**

**-There are reasonable alternatives which should be considered**-It is unclear why the AEIS does not consider some very reasonable alternatives to the mine-everything scenario. The AEIS recognizes that the quality of phosphate in the future will be lower, and harder to get, and FIPR indicates it will be subject to undesirable constituents. Alternatives which call for reasonable setbacks from streams, preservation or conservation easements along significant streams and protecting valuable wetlands, aggressive and innovative methods to reduce water use and supplementation of any lost rock production with imported phosphate are achievable (as illustrated at South Fort Meade) and should be evaluated in the AEIS.

## T. The AEIS Process Has Led to Errors

**-The AEIS was compiled hastily and appears to be full of obvious errors. Additional time should be taken to prepare a product which is accurate and credible**-Work on the AEIS began after the scoping meetings in early 2011. The draft AEIS was made available May 21, 2012. This is an incredibly short time frame for a study of this magnitude and this complexity. Unfortunately the product shows that insufficient time was taken to do the job accurately.

The Corps has allowed only 60 days for the public to comment on a document of over 1000 pages, covering multiple disciplines. Of necessity our review is limited by the time we've had, but even within that short period we have found obvious discrepancies in areas that should have straightforward data and answers. The following are just some of the examples:

The dates of operation of mines, an extremely crucial issue for analysis of cumulative impact, differ from page to page. For example, compare 1-12 with1-16 to 1-17. Most troubling, the DAEIS discussion of the temporal scope of the AEIS study, found at 4-171, states that it ends in 2060 because that is the date that all mining and reclamation at all of the four studied mines is concluded. That statement, however, is directly contradicted by 1-17, which identifies Ona mining as 30 years, from 2020 to 2050, with 15 years of reclamation beyond that, ending in 2065, not 2060. And of course the Pioneer and Pine Level/Keys mines extend well beyond either 2060 or 2065. Pine Level/Keys mines till 2073, with 8 years of reclamation till 2081. Pioneer mines till 2085, with 8 years of reclamation till 2093. The apparently helpful time chart at 4-173 continues this reclamation period mistake as to Ona, and apparently the other mines as well if the timelines, which are not defined or explained, do not include reclamation periods.

The mines themselves, and the acreages of wetlands and streams to be destroyed by mining, differ from page to page as well. Compare 1-17 to 1-19 with 2-6 and 4-30. These are big differences-the total differences for the four mines alone involve over 2400 acres of wetlands and almost 200,000 linear feet of streams.

The AEIS draft makes significantly different assumptions for important issues such as the length of time reclamation will take-from 3 years in some places, to 10 years in others to 16 for yet another. Compare 4-22 (3 years) to 4-166 (5 years), to 4-96 (6 years), to 4-26 (8 years) to 4-63 (10 years) to 4-89 (16 years). An assumption of 3 years used in calculating

groundwater withdrawals and surface water capture can lead to grossly incorrect results if the actual time of impact is 16 years and leads to overlap with other mining.

Assumptions about CSA reclamation are also inconsistent: three years at 4-96, several decades at 4-166.

These are some obvious errors but they suggest that other underlying data may also be flawed.

As noted above, significant issues have simply been left out of the AEIS: Charlotte Harbor impacts, radiation, cumulative groundwater and surface water impacts, and gypstacks are simply ignored or excluded.

It appears that the AEIS was issued May 21, not because it was ready but because there was a need to meet the deadline set when it was announced. The reason for this accelerated schedule is unclear (unless it is a schedule demanded by the mining companies for their own purposes). The earliest mine covered by the AEIS does not begin operation till 2015. Yet despite what would appear to be plenty of time to prepare an effective and compliant AEIS, the process is being rushed.

This rush continues in permitting for the four mines themselves. Despite the fact that in some cases their applications are barebones, and despite the fact that the AEIS on which they must rely cannot become final until at least 2013, the Corps published notice of the applications requiring public comment be received by July 1, 2012, which would require public comment on these applications, without allowing the public to see the final EIS. This would be wholly illegal. The EIS is supposed to inform the public and inform the decisionmaking process. The public must have a right to see the AEIS before making comments, or the process is meaningless. We understand that the comment period has not been extended, but do not understand how the initial timing requirement could have been imposed.

**-Several submitted documents appear to be missing from the Corps files.-** We mention above the scoping comments of Brian Winchester which are apparently missing from the Corps AEIS files, even though timely submitted. We have supplied another copy with this letter.

Other documents which seem to be missing from the Corps files, even though submitted, are several documents submitted by Dennis Mader of 3PR, including:

The Ona Mine Staff Report (Draft) Hardee County Planning and Development (2003)
Land-Use Suitability Study/Hardee County/CFRPC (2002)
Non-Mechanical Dewatering of Florida Aquifers, Dr. Sydney Bacchus, Geologic Society of America (2006)

We request that these documents be included in your AEIS record. We will notify you as we find documents missing in the future.

## U. The AEIS Process Has Been Improper and is Apparently Biased.

**-Besides the inexplicable exclusions of important issues, discussed above, the AEIS process itself has been improper in its decision to avoid the collection of additional basic data.-** We have been told that the instructions given to CH2M Hill were to prepare the DAEIS using only currently available data. Unfortunately the Statement of Work for the efforts of the contractor confirms that understanding. 4.5 Task 5 of the SOW provides that CH2MHill is to rely on existing data, except for specific studies approved by the Corps, which must be performed through special authorization procedures. Ex. 40. We believe that instruction is highly improper. The applicable regulations specifically require that where there is incomplete information essential to a reasonable choice among alternatives, and the cost of obtaining it is "not exorbitant" the agency must include the information in the EIS. 40 CFR 1502.22.

In addition to the EIS requirements themselves, the Corps' Environmental Operating Principles or EOPs commit the Corps to "build and share an integrated scientific, economic and social knowledge base that supports a greater understanding of the environment and impacts of our work." The obligation to make sure appropriate data is collected is part of the central mission of the Corps.

In our scoping comments we identified several areas in which existing data is inadequate and further data gathering is necessary. They included:

-There should be an updated inventory of mined land and land to be mined. The present status of formerly mined land should be identified, its usage, including usage for residences, and condition. Maps of mined areas with all long term physical mining features such as CSAs, gypstacks, processing plants, mined lakes, etc., should be prepared. This inventory should include nonmandatory as well as mandatory lands.

-All mining permits should be inventoried and summarized, including NPDES permits, Clean Air Act permits, including new source permits, and COE and state mining permits and county approvals.

-All resources impacted by mining should also be listed, e.g. Charlotte Harbor is a federal Aquatic Resource of National Importance (ARNI); the Myakka and Little Manatee Rivers are Outstanding Florida Waters (OFW), the Peace, Myakka and other rivers and their tributaries are also important resources.

-A schedule of anticipated mining for each mine, with realistic periods for reclamation, should be created so that it is possible to identify all cumulative impacts for mines operating at the same time and the acreage involved. Groundwater withdrawal needs for each period for each mine should be cumulated. For example, we know that Altman, South Fort Meade and Ona are scheduled to operate concurrently. The impact of several mines operating concurrently could obviously present additional issues.

-In a previous filing requesting the preparation of an EIS for the South Fort Meade extension mine we have noted the number of variances and other exceptions allowed from mining permits and reclamation plans. These exceptions should be assembled to determine what

impacts they should have on permitting decisions, i.e. Corps mining decisions have historically cited and relied on state permitting and state regulations to determine that no further review is needed in certain areas, but it is not acceptable to rely on the protections allegedly available from state permitting decisions where the data shows that those permits will be readily amended or variances granted or exceptions made through a consent order process. The State of the Science Conference held by USEPA in connection with your scoping process included a presentation by Professor Lora Demers regarding the over 100 variances and waivers she had identified. A copy of that material should be incorporated in your AEIS record. See Demers' presentation included in Angelo April 19, 2011 transmittal.

-Note that the Council on Environmental Quality has issued important guidance on "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact." (January 14, 2011) (CEQ Mitigation Guidance), attached as Exhibit D. This guidance, which cites the COE rules, requires that mitigation measures must be monitored to insure their effectiveness and a further EIS performed if the measures are not effective. Effective monitoring and enforcement of state limitations relied on in the 404 permitting process must be considered by the COE in the AEIS for incorporation in permitting.

Additionally, our scoping comments called your attention to a study proposed by the USGS on Little Charlie Creek to determine the functioning of a creek system before mining. This very inexpensive study would also have provided a method for monitoring performance, as required by the CEQ. This very reasonable work was not performed.

The DAEIS notes that there is good flow data is missing for the Myakka because it has no gaging stations. 4-97. An obvious and necessary solution is to begin gaging on the Myakka so that that material becomes available. This is a program which will last for decades, yet the Corps is not taking obvious steps to provide accurate data about the results of the mining it proposes to approve.

We are also aware, and understand that the Corps is as well, that LIDAR data for all potential mining areas is available from SWFWMD. That data, as demonstrated in prior studies by the USGS, is invaluable for predicting the impact of mining on surface water flows, yet it was not used by the Corps, which apparently preferred to remain willfully ignorant of this important resource and its application. The USGS concluded in its studies, which were supplied to the Corps by Percy Angelo (though the Corps should have had them anyway), that the localized wetlands and streamlets around the larger streams and rivers play a crucial role in supporting flows in those streams and rivers.

Ralph Montgomery comments that it is regrettable that the Corps decided not to use the Peace River and Myakka River Integrated Surface Water and Groundwater Models developed by SWFWMD. Ex. 8, at 2. We understand other experts have asked the same question. The Integrated models already developed to address this area should be used.

There is a very real concern that the decision to limit collection of data is based on a desire to meet your obviously aggressive, perhaps otherwise unachievable deadline. Other unusual limits in the SOW, such as the limitation of site visits to 40 hours, additionally suggest that this is true. These artificial limits on data collection are clearly improper. Unfortunately, the

decision not even to use existing data and existing models raises the even more serious question of whether the Corps was concerned that they would demonstrate even more significant mining impacts.

**-The Corps Has Permitted Mosaic to Direct the AEIS Process.-** The record shows an April 25, 2011, comment letter from Mosaic with detailed instructions for preparation of the AEIS. The numerous AEIS deficiencies noted above are apparently the result, in many cases of the Mosaic instructions. This is highly improper. The Mosaic comments are attached as Ex 41. Several examples are as follows:

-Mosaic urged the preparation of a purpose and need statement very similar to that proposed by the draft AEIS. Mosaic further urged limitation of the AEIS to the specific projects proposed, not the areawide mining activity. See Mosaic comments at 3-4. This is exactly what the Corps did, despite the promise in its notice of intent to prepare that the EIS would be an areawide EIS. In fact the Corps announced, as instructed by Mosaic, that it would not be conducting a programmatic EIS, nothing that would allow it to consider the overall destruction caused by its mining decisions.

-Similarly, Mosaic instructed the Corps not to consider areawide alternatives, but to leave the alternatives discussed to specific permit alternatives, which in turn were to be dealt with in individual permits. It was incredibly blunt about this, "thus, the AEIS should not be structured to provide 'areawide' alternatives." Mosaic Comments at 4. Mosaic goes on to describe specific alternatives which the Corps was allowed to discuss, e.g. Ona and Desoto should not be considered alternatives for each other since Mosaic wanted them both. Any Corps discussion of alternatives, other than those proposed by Mosaic, must occur only in individual permits. Id. Later Mosaic tells the Corps not to draw conclusions about "good" or "bad" mitigation and reclamation practices. Id. at 11. The Corps then did exactly what Mosaic told it to do.

-Mosaic instructed the Corps to limit the cumulative impacts discussion, using the same approach as in the Hardee County South Fort Meade permit, even though that was a permit which was appealed and stayed by the USDC in Jacksonville. The Corps went even further than requested by Mosaic, its analysis essentially canceled out past horrific impacts from mining. It agreed to limit future impacts to those from the four involved permits, entirely disregarding other future mines or the continuing impacts of past mining.

-Mosaic then instructed the Corps to not discuss fertilizer plants and gypstacks, radiation, the lower reaches of the Peace or Myakka, the Charlotte Harbor estuary, or Tampa Bay. Ex. 41 at 7-8. It claimed that state and local regulation dealt with fertilizer plants and gypstacks and falsely claimed there would be no changes, even though it knows full well that gypstacks expand by 5 tons with each ton of fertilizer produced and even though the gypstacks regularly spill, an event which is not controlled or limited by state permitting. As for radiation, it pretends that radiation exposure for phosphate lands should not be considered because future use of those lands is not known, ignoring the fact that the state's only method for protecting the public from phosphate radiation lands is to warn them, via the internet, to stay away. See discussion above. It nevertheless instructed the Corps to reassure the public. The Corps obeyed.

-Mosaic instructed the Corps to "Maintain the Schedule" so that its permit applications would not be unreasonably delayed. Id. at 9. This explains the impossible time frame maintained by the Corps, and the many resulting mistakes. The Corps did what it was told.

-Mosaic instructed the Corps to "Use Existing Information." Id. at 9-11. It then proceeded to tell the Corps which "existing information" should be used, going so far as to provide reports summarizing the information it wanted used, and supplying new information itself where it felt the existing information was insufficient to make its point. Id at 11 (bay wetlands). In fact, the Appendix to its letter lists a number of new data assemblies which Mosaic wanted considered. As discussed above, the Corps complied, considering data supplied by Mosaic but rejecting any need to consider data from USGS, SWFWMD or data prepared at their urging. As noted above, it also left out data supplied by public commenters, including the Environmental Groups.

-Mosaic instructed the Corps to include all of the claimed economic benefits of phosphate mining and provided its own report (new) and its own IMPLAN study (new) to support them. Id. at 12-13. It made no reference to consideration of the economic benefits of the environmental values which might be affected, and again, the Corps did exactly what it was told. Significantly, Mosaic went to some lengths to warn the Corps NOT to consider its business decisions, even though the USEPA economists had provided certain elements which should be considered in an EIS (provided by the Environmental Groups in their letter dated April 20, 2011and by Percy Angelo in her letter dated April 19, 2011) and even though the entire purpose and need discussion, by Mosaic and the Corps, rests on the need to protect the miners' economic expectations. Again, the Corps did what it was told, parsing its obligations to consider economics when Mosaic wants them considered, but to ignore economics when Mosaic wants them ignored. The Corps in fact simply accepted an economic study prepared by a Mosaic contractor, EcoNorthwest, 3-138, abandoning any pretense that it is preparing the AEIS.

As pointed out in earlier sections, the issues on which Mosaic instructed the Corps, and the Corps obeyed, are extremely damaging to the public and the environment. Mosaic basically instructed the Corps to exclude them from the analysis. The Corps agreement to do so demonstrates that the resulting draft is NOT an AEIS prepared by the Corps, as required by NEPA, but a Mosaic construction. It does not comply with the statute.

**-The Corps contractor for the AEIS has a conflict of interest which should bar its preparation of the AEIS**-Beyond its errors and omissions noted above, the Corps contractor, CH2MHill, has conflicts of interest which have apparently interfered with a neutral and professional AEIS study. In 2007 the Army outsourced its water and wastewater handling at Fort Campbell Kentucky to CH2MHill, where it produces fluoridated drinking water for the base. One of the mining byproducts is a fluoride compound which is sold for fluoridation of public water supplies. CH2MHill is also the contractor for water utilities in Florida that fluoridate municipal water, or fluoridate wastewater for groundwater injection, again using fluoride products similar to those sold by the mining industry. Further, CH2MHill is a leader in seawater desalination technologies. Desalination is a hot topic in the areas impacted by mining, because of its extraordinary cost (Tampa Bay Water has spent over $300 million to date to build and repair its desalination plant-an amount which does not include very significant operating costs) and because of evidence that it would not be required were it not

for the extreme amounts of aquifer pumping allowed to industries such as mining and other users. CH2MHill profits from at least two technologies driven and created by phosphate mining, the need for desalination and the use of cheap fluoride products for its water/wastewater business. These conflicts interfere with a neutral evaluation of the issues and have contributed to the numerous flaws and deficiencies noted in the draft AEIS.

We have participated actively and constructively in your process, supplying much technical data and information and numerous comments which have been carefully considered by the organizations which we represent. We have sought out input from the public and from experts to insure that our comments are as informed as possible. We know that the issues we present to you in these comments are issues which many believe to be important, and, for the reasons given above and in our prior submissions, we ask that you broaden your analysis to consider the true cumulative impacts of a mining program which will impact well over a million acres of Central Florida for easily the next 100 years.

Thank you for your service and your concern for our environment.

Very truly yours,

On behalf of
Manasota-88
People for Protecting Peace River (3PR)
Protect Our Watersheds (POW)
Sierra Club Florida Phosphate Committee

Cc: (w/o enclosures)
Duncan Powell, USEPA powell.duncan@epa.gov
Tony Able, USEPA able.tony@epa.gov

Submission number 543

**From:** Paul [mailto:p.kripli@att.net]
**Sent:** Tuesday, July 31, 2012 11:59 AM
**To:** John.P.Fellows@usace.army.mil; teamaeis@phosphateaeis.org
**Subject:** Regarding Phosphate mining in Florida- comments

Please see the attached letter and my comments regaring the Phosphate Mining plan for Florida. This is a tragedy and needs to stop. The Phosphate is causing terrible environmental damage and polluting our water.

Paul Kripli
321-541-8122

July 25, 2012

John Fellows, Corps Regulatory Project Manager
US Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302 John.P.Fellows@usace.army.mil

Cc: Steven W. Gong, AEIS Consultant Project Team Manager
CH2M Hill Engineering, Inc.
800 Fairway Drive, Suite 350
Deerfield Beach, FL 33441 teamaeis@phosphateaeis.org

Re: Comments on Draft Areawide EIS for Central Florida Phosphate District

Dear Sirs:

Please look closely at the chart below. It is emblematic of the problem with the AEIS draft:

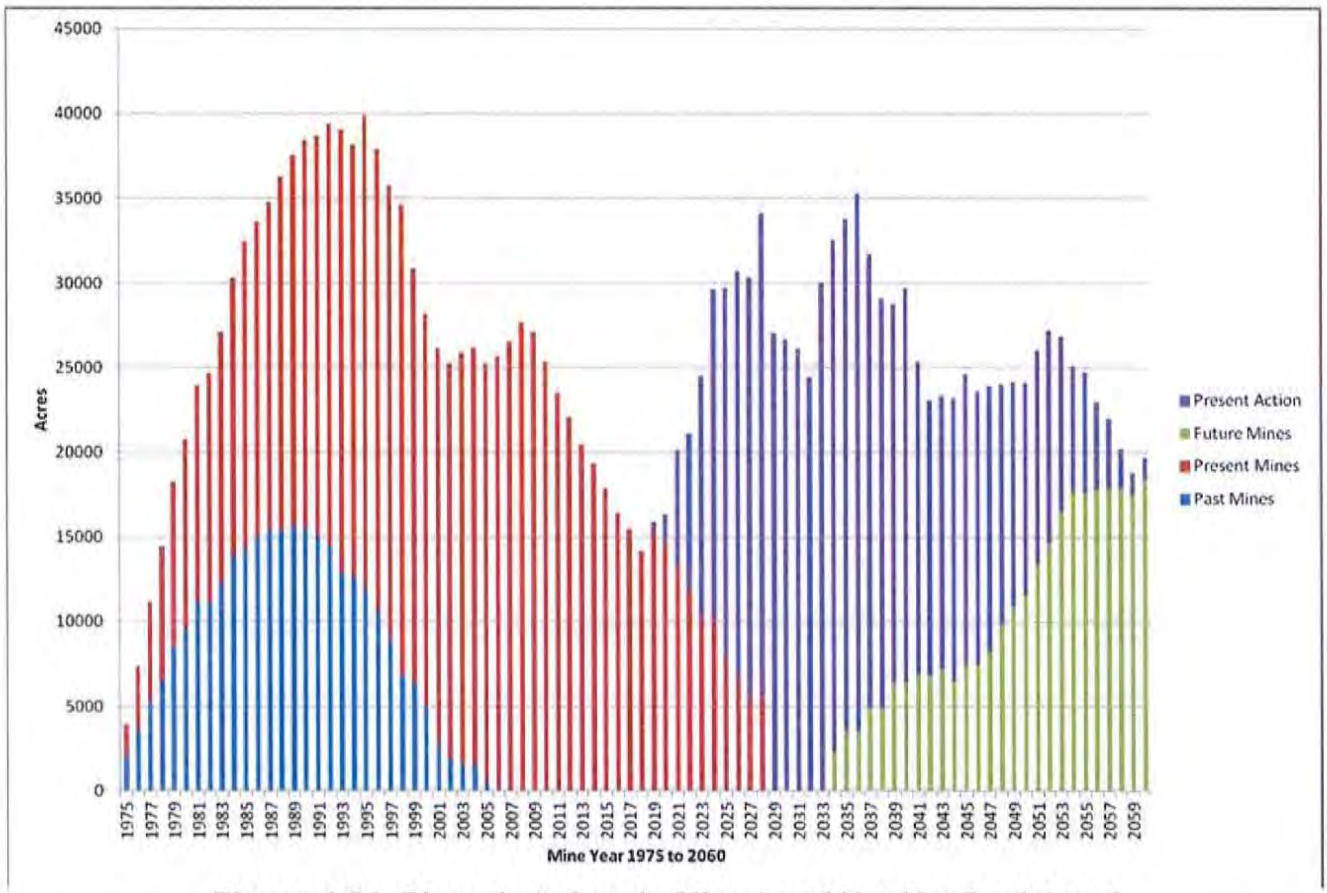


**Figure 4-61. Phosphate Lands Mined and Not Yet Reclaimed**

The chart, found at 4-191 of your draft Areawide Environmental Impact Statement (DAEIS), and attached in Ex. 1, demonstrates that, under the proposed permits, the phosphate mining

which has been so destructive of the environment of central Florida, is simply going to continue for decades, and even get worse. Reassurances about how problems, which the industry has admitted, are a relic of the past are simply not correct. We amplify on these issues, and raise certain additional points below.

We are providing these comments on the proposed Corps of Engineers (COE or Corps) DAEIS for the Central Florida Phosphate District (CFPD) on behalf of a group of community and environmental organizations listed below (Environmental Groups). Many of these organizations have participated actively in your previous permitting efforts for phosphate mining and were pleased at your decision to conduct an AEIS. Unfortunately we believe the resulting draft fails to comply with AEIS requirements in significant and material ways.

While our comments are provided in more detail, with support, below, the overall problem with the DAEIS is its failure to address the cumulative impacts of the proposed mining plus past and current mining and its failure to acknowledge or consider the extensive data showing mining impacts to groundwater, surface water, water quality, air quality, local climate and public health.

While we point out many areas where data is ignored or issues are dismissed without discussion, the graph provided above, and in Ex. 1, is illustrative of the problem occurring throughout the document. The graph of areas mined and not reclaimed at 4-191(citations to the DAEIS will be to the chapter number and page), shows that acreage mined and not reclaimed peaked in the past in about 1995 at about 40,000 acres, and will fall to about 14,000 acres in 2017, suggesting improvements. But then, with the new proposed permits, acreage mined and not reclaimed will rise dramatically to some 35,000 acres in 2036, almost a doubling of impacted land, and the numbers will actually be worse if the mining companies usual delays in reclamation continue and if infill permits not included in the AEIS are added.

This mined and unreclaimed acreage captures surface water flows and impacts local climate, wetland function, habitat, and many other important natural resource services. **The graph tells us that we are about to enter the second major era of phosphate mining and mining destruction; yet the DAEIS never addresses this reality.** Instead the DAEIS, and the industry, acknowledge serious problems in the past but claim the future will be different. The data which the DAEIS refuses to consider proves otherwise; this is antithetical to the letter and spirit of the National Environmental Policy Act (NEPA).

## A. The Proposed Purpose and Need Statement is Improper

The Corps has essentially adopted the applicants' statement of the purpose and need for their phosphate mines: "The basic project purpose for each of the four similar actions under review in this AEIS is to extract phosphate ore, and the overall project purpose is to extract phosphate ore from the mineral reserves located in the CFPD and to construct the associated infrastructure required to extract and process the phosphate ore at separation/beneficiation facilities recognizing that the ore extracted must be within a practicable distance to a new or existing beneficiation plant." 1-16 (citations to the DAEIS will be to the chapter and page number). This formulation closely mirrors the purpose and need statements proposed by Mosaic and CF. 1-14 and 1-5. The Corps' purpose and need statement is one which

appears to lead to an AEIS which will ALWAYS approve the mining of phosphate without limitation, since that is the purpose against which all alternatives will need to be measured. It is improper on its face.

The purpose of an action as discussed in the AEIS must reflect the underlying reason for NEPA and AEIS analysis in the first place, the need to consider environmental impacts in federal actions. A purpose which predetermines the result is not consistent with NEPA or the regulations. It is clearly inconsistent, for example, with the clear direction in the statute and regulations that a "no action" alternative be included and seriously considered. A purpose and need statement like the one proposed will always result in rejection of the required no action alternative. Further, the statement as proposed by the Corps suggests that the Corps itself will be mining; in fact the Corps action, the federal action which creates jurisdiction, is to permit mining consistent with Section 404 of the Clean Water Act which is supposed to protect the water resources of the United States. Accordingly the purpose and need for an EIS addressing the Corps' actions should include the environmentally protective role the Corps is directed to play.

The regulations say that the purpose and need should reflect the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action. 40 CFR 1502.13. In the instant case the agency, the Corps, is responding to the significant environmental impacts and effects of mining and its consequences. We believe the purpose and need for the project should be expressed as follows: "**The purpose of the proposed action is to review permit requests for phosphate mining in a manner which will protect the environment, promptly restore mined lands, and protect downstream uses.**" Similarly the need is "**to supply a reasonable public and private need for phosphate while protecting the natural environment.**"

Further, as additionally discussed below, the entire Bone Valley phosphate deposit is the subject of the AEIS, and all the alternatives examined are simply alternative mining sites within the CFPD. Two of those pretended "alternatives" are actually future Mosaic mines. Others are other CFPD properties which have been screened to eliminate urban areas and state parks. The alternatives essentially include everything within the CFPD that is not already mined or permitted for mining, urban or too small to mine. They assume that everything within the CFPD is open for mining; they appear to be a shopping list for the mining companies.

As discussed below, there is no single map in the DAEIS which clearly identifies past, present and future proposed mining in relation to the impacted rivers. A glance at the land use map at 3-139, however, begins to demonstrate the nature of the problem. The large magenta blob in the northern 3/5 of the CFPD is the already mined land. The yellow north of that is urban, built up. Everything to the south is essentially wetlands and agriculture. It is this area that includes the four proposed mines, the two future Mosaic mines alleged to be alternatives, and the area the document suggests are additional alternatives. Together these past, proposed and alternative mines take up almost all of the CFPD.

There is no discussion of the cumulative consequences of such widespread mining. Many are discussed below, including the consequence of putting three new mines in the Horse Creek basin, destroying one of the few remaining environmentally significant tributaries to the

Peace River. One cumulative consequence in particular provides an example of the absurdity of the analysis. Numerous charts and aerials demonstrate the extensive network of wetlands and streams to be destroyed (though the Corps never provides a cumulative list). A rough calculation is that some 12,000 acres of wetlands and 469,009 feet of streams will be destroyed by the identified four mines alone. Including the 3 specified alternatives, which are simply future projects, not really alternatives, over 37,000 acres of wetlands will be destroyed. See 1-17 to 1-19 and 2-9. In light of the fact that the northern half of the CFPD has already been mined, the **DAEIS NEVER DISCUSSES WHETHER THERE IS SUFFICIENT WETLAND AND STREAM CAPACITY WITHIN THE CFPD, OR EVEN BEYOND IT, TO MITIGATE FOR THIS DESTRUCTION WITHIN THE PEACE AND MYAKKA WATERSHEDS.** Mitigation is supposed to be watershed based, but if a good part of the watershed is mined finding mitigation lands becomes a real concern. Surely the Pine Island mitigation bank is not the answer to this problem. In its zeal to allow the mining companies to mine everything they want, the Corps postulates a purpose and need which makes compliance with the law impossible.

Our previous comments on the Purpose and Need Statement in connection with scoping and in connection with the South Fort Meade extension permit were supplied in our letter dated April 20, 2011, and in Percy Angelo's letters of April 13 and 19, 2011, and we assume that those comments and enclosures have been incorporated into this record. The South Fort Meade extension comments supplied in those letters noted the Corps' evolution in its purpose and need language as it sought to buttress its decisions to allow mining of every bit of phosphate which the mining companies ask for. This is a clear attempt to evade NEPA requirements and is arbitrary and unreasonable.

## B. The AEIS Does Not Represent a Cumulative Analysis

**The Corps never supplies a single map on which the extent of mining can be discerned or a single chart on which the dates of overlapping mine operation can be discerned or any map showing the relationship of the mines in question to the impacted rivers.-** While the purpose and need statement is designed to allow mining of almost every deposit of phosphate within the CFPD, the maps supplied in the AEIS conceal this impact. In order to see the total area covered by mining in the past, or anticipated for mining in the future, one must assemble maps at 1-18 (Historical mining and 4 proposed mines covered by the AEIS) and 1-25 (Potential additional mines at Pine Level/Keys and Pioneer Tract) and 4-175, 177 (existing mandatory and nonmandatory). If you try to look at these maps together it appears that just about the entire CFPD is anticipated for mining. The areas left out are either state parks/Florida Forever parcels, or urban areas, or areas proposed for mining as alternatives in the AEIS. The mining companies and the Corps appear to anticipate that the entire CFPD will essentially be abandoned to mining, or to neighboring mining.

The map at 3-87, though supplied for the discussion of TMDLs, can be used to tease out past, present and proposed mines, though it doesn't reveal the additional so-called alternatives. It does show that the entire upper reach of the Peace is covered with mines on either side, and the entire lower reach of the Peace in the CFPD is proposed for mines, although the river itself, unaccountably, is not shown.

The DAEIS has different estimates, in fact sometimes dramatically different estimates, for the amount of wetlands and streams to be impacted by the four proposed mines. Compare ES 5 to 1-16 to 19 to 4-30. The differences amount to over 2000 acres of wetlands and almost 200,000 linear feet (31 miles) of streams. We have no way of knowing what the correct numbers are. In our discussions we give our source within the DAEIS wherever possible, but we urge that the discrepancies be corrected.

According to 4-174, 204,000 acres in the Peace watershed are already mined or permitted, 35,000 in the Little Manatee, 3700 in the Manatee and 2900 in the Myakka. Elsewhere the numbers seem to be different.

At 4-187 to 188 the DAEIS tells us that mining is currently 10% of the Peace River watershed of 2350 square miles (1,504,000 acres, of which 10% is 150,400 acres, devoted to mining now). This is a difference of over 50,000 acres from 4-174. According to 4-187 to 188, eighteen percent is native (natural) lands. It doesn't tell us the next obvious question, what percentage of the watershed will be devoted to mining under the AEIS. We have to do our own work to estimate those figures. Very roughly, since the data we are given is not broken down by watershed, we can estimate that the proposed Peace River mines and Pioneer will involve over 73,000 acres, almost 5%, for a total of 15%. We don't have the data to calculate the amount of natural lands lost to mining, but it is likely high in light of the fact that mining will take place in the south and prior mining and urban development is in the north. Id. We can calculate from data elsewhere that almost 22,000 wetland acres will be lost to mining. See 1-17 to 19 and 4-30. Sixty-two miles of streams will be lost within the Peace watershed alone. Id. (The omission of this data for the Peace is interesting since these figures are given for the Myakka. Mining will go from 0.8%% to 7.4%, including Pine Level. Wetlands and water comprise 22%, but again, we are not told how much will be lost. Id.)

These numbers are in addition to the losses already incurred, 136,000 of 355,000 acres of wetlands (38.5%), 31,000 of which were lost despite regulatory limits on losses, and 343 miles of streams. 4-189.

And yet there is nowhere in the AEIS where these devastating consequences are pictured, calculated and discussed. There is not even a chart where the reader can determine which mines will have overlapping, and thus cumulative, years of operation (4-173 does not include all the years of impact. Ona extends to 2065, with reclamation. Pioneer and Pine Level, extend into the 2080s, even into the 2090s, including reclamation). This failure to discuss cumulative impacts, over space or over time, is a clear violation of the function of an AEIS. When one recognizes that mining in the upper Peace River has contributed to a 20-50 foot drop in the Floridan Aquifer and the drying up of the river and important springs, the prospect that we are about to do 50% more mining in the lower part of the river is dismaying, yet this is never discussed, and, as described above, it requires some effort even to get the data.

This is the consequence of a purpose and need statement which says that the Corps' purpose is to extract phosphate ore from the CFPD. Apparently that really means the entire CFPD, or at least as much as the mining companies can get their hands on. There is no question that the statute and regulations require a discussion of the cumulative impacts of mining. As addressed later in this section, the DAEIS substantially fails to provide this

discussion. The failure to even include a map of all mining areas is strong evidence of this failure.

**-The DAEIS also fails to provide a map showing the relationship of the mines to the impacted rivers.-**Unaccountably, the AEIS document also fails to provide any map which shows the rivers involved, the Peace, the Myakka, Horse Creek, and their relationship to the mines proposed. Similarly, despite a section purporting to discuss relative losses in streamflow with reference to USGS gaging stations, there is no map showing the rivers, the gaging stations AND THE MINES. See 3-37 (rivers), 3-42 (some, not all, gaging stations). This information is crucial to understanding impacts. Studies by the US Geological Survey have noted the impact of mines and their clay settling areas which border the Upper Peace River for miles and contribute to its loss of flow. These studies were provided to the Corps in the scoping process. See Letter from Angelo to Corps, April 13, 2011. Despite the clear importance of the actual location of the mines in relation to the rivers, there is **NO** map in the AEIS which shows this in order to assess whether the impacts of the mining activities which have devastated the Upper Peace may impact the lower Peace (with Desoto and Pioneer), the Myakka and Horse Creek as well. This is inexplicable, and wholly improper.

One further unfortunate twist of the DAEIS approach is that we actually don't know how much mining will be involved. In addition to the inconsistencies from page to page within the DAEIS, the Corps explains that the Surface Tract was excluded from the AEIS because it is small enough to be permitted under the Corps nationwide permit program, without the usual Corps, or public review. Infill projects around the boundaries of existing mines may also be added, without being accounted for in the AEIS. 4-29. These additional but not disclosed projects have the effect of extending the operating years, footprints and impacts of mines without being factored into the models and analysis. A phosphate mining AEIS should include **all** mining, irrespective of permitting categories. Any mining area excluded from this analysis should not be permitted absent preparation of a supplemental EIS.

The DAEIS claims that it is not a programmatic EIS. If this is thought to be justification for the limited analysis provided, as discussed below, it is improper.

With the improper purpose and need statement, the failure to evaluate cumulative impacts, over space and over time, as further discussed below, and the other errors such as the exclusive use of downstream and long term average data, also discussed below, the Corps has effectively abandoned the CFPD to mining and its impacts.

**-The DAEIS never provides a cumulative analysis of surface water flow reductions and wetland and other habitat losses though there are indications they will be highly significant-**While this will be discussed further in connection with surface water issues below, it is highly troubling that the DAEIS does not contain a discussion of the impacts of surface water flow reductions from the proposed mines, in addition to the existing flow reductions from existing mines.

The chart above, also reproduced at Ex. 1, shows the amount of land mined but not reclaimed over the years. The amount peaked in approximately 1995 at 40,000 acres and is expected to decline to about 14,000 acres in about 2018. Then, however, with the proposed new mines it starts to increase again, dramatically, till it reaches over 35,000 acres in 2036.

This is significant because this acreage is the "capture area" of the mines, the area that impounds surface water and prevents it from entering creeks, streams, rivers and ultimately Charlotte Harbor. (For an explanation of a mining company document in which this is acknowledged as the capture area see Ex.1 and the surface water discussion below).

The DAEIS makes a calculation of flow losses by capture for the proposed mines, but never add these losses to those already experienced from existing mines and reclamation delays. How big could those be? In 2012 flows are impacted by a capture area of about 19,000 acres, according to Ex. 1, 4-191. The 2037 capture area, mined and unreclaimed land, is almost twice as large, suggesting a loss of flow twice what we experience today.

It appears that the same total loss will occur for wetlands and for habitat, during this "moonscape" period. And, as discussed in connection with local climate below, meteorological studies have shown a loss of localized rainfall and increase in temperatures as a result of loss of ground cover. One of the years studied was 1993, a year in which mined and reclaimed land was at 38,000 acres, close to its highest, Ex. 1, and also a year occurring in the midst of a substantial drop in Peace River and Alafia flows, Ex. 2.

The DAEIS devotes much time to talking about how things will not be as bad as they were in the past, but in fact they will be just about as bad. Compared to today there will be almost twice the damage in terms of wetlands lost, flows lost, habitat lost, and yet there is no discussion of the issue. How can that not be worthy of mention, let alone analysis!

**-The AEIS is improperly limited in geographic scope-** We have previously noted to you that your AEIS scope, and your DAEIS, are substantially insufficient in that they appear to include only the property within the CFPD boundaries and therefore exclude the downstream counties, watersheds and estuaries most impacted by mining. These include Charlotte, Sarasota and Lee Counties, the Peace and Myakka Rivers and the Charlotte Harbor estuary, as well as the counties and river systems bordering the CFPD to the west, the Alafia, the Manatee, and the Little Manatee, and Tampa Bay. In discussions you have assured officials in neighboring and downstream counties that your analysis will include them. You have failed to do so.

Brian Winchester, a wetland expert who provided scoping comments on behalf of ManaSota-88 and 3PR, comments which were ignored and not even included in the DAEIS appendix, noted specifically that the CFPD artificially truncates the western boundaries of all affected watersheds that have estuarine outflows, and thus excludes all downstream estuarine impacts. His comments are provided, again, as Ex. 3 to this submission. Winchester urged evaluation of downstream estuarine impacts, including the timing and volume of freshwater in-flows and changes in natural salinity regimes, other water quality effects such as turbidity, color and nutrients and effects on fish habitat, commercial fisheries and threatened and endangered species such as the small tooth sawfish and Gulf sturgeon. As discussed further in connection with groundwater flow, and water quality (demonstration of impairment of ThirtyMile Creek, a tributary of the North Prong of the Alafia), there is real evidence of impacts which should have been considered and weren't because of the artificial geographic limitation of the CFPD.

The DAEIS failures to provide a cumulative analysis, to provide any usable set of maps or figures to identify impacts, and to address central and significant issues such as gypstacks, public health impacts, or the economic value of agriculture and natural resources, result in a document which is so inadequate as to preclude meaningful review. See 40 CFR 1502.9. It should be corrected so that the AEIS process can proceed in compliance with law.

## C. DAEIS Improperly Limits the Scope of the AEIS to 2060 and Never Considers the Consequences of the Extended Environmental Disruption Which is to Come

The DAEIS decides that the temporal scope of the study should end in 2060, because, it claims, 2060 represents the end of the mine life, including reclamation, of the four specific projects being considered. 4-171. The DAEIS concedes that this 2060 date "overlaps" with the dates of operation of the two specific mine "alternatives." While the DAEIS is wrong based on its own assumptions (Ona reclamation extends to 2065 according to 1-17), it is also clear that the so-called mine alternatives are in fact simply future mines. And those mines extend well beyond 2060, into 2090 and beyond (Pioneer mine reclamation appears to extend to at least 2090-30 years after Ona with 10 years reclamation. 4-81). The chart above, Ex. 1, illustrates vividly that 2060 is not the end of impacts.

Throughout the DAEIS the document glosses over or ignores the actual time frames of disruption. In addition to the failure to consider the lives of the so-called alternative mines, as discussed below, it fudges the predicted reclamation periods, it ignores the numerous reclamation variances, it fails to mention the serious reclamation delays which are so extended that bond penalties have been imposed, and it fails to consider the essentially permanent damage of CSAs etc. It also does not address an obvious question, the ability of the methods of wetland analysis (UNAM or WRAP) to sufficiently account for periods in which wetlands are not available. It appears that the mining impacts will in fact be experienced through the end of the century. Nowhere does the document consider the consequences of that extended damage.

The graph above and Ex. 1, the 4-191 graph of phosphate lands mined and not yet reclaimed, illustrates this problem quite vividly. The end of the graph, in 2060, still shows 20,000 acres of lands mined and not yet reclaimed, some of those acres from proposed mines. Since those acres apparently do not include nonmandatory acres, or infill or small mine projects, the actual impact will be even worse.

The decision to limit the AEIS scope to 2060 improperly ignores the additional decades of impact to groundwater, surface water, wetlands, local climate and all of the additional environmental insults discussed below.

## D. AEIS Improperly Compares Proposed Mining to Past Mining Excesses.

Time and again within the DAEIS the document compares the impacts of proposed mines to past mining and concludes that it will be not much worse, or even better than the past, and appears to conclude that that is good enough. That is improper.

Mining in the past had a terrible environmental record. Before 1975 no reclamation was done and vast areas of the northern part of the CFPD have been left as a moonscape. As discussed below, many former mining properties are now Superfund sites due to the exposed mine tailings and their contaminants, including radium 226.

We have supplied to you studies by the US Geological Survey (USGS) which demonstrate that past mining has contributed to a drop in the Floridan aquifer which has led to loss of flow in the Peace River and the drying up of springs, such as Kissengen Spring. Despite this information, the DAEIS compares further reduction in flow from mining is compared to the flows already degraded by past mining. This is manifestly improper.

The USGS studies were contained in submittals by Percy Angelo on April 13 and April 19, 2011. These same USGS reports provide data demonstrating that the likely natural, premining condition, included artesian conditions, gaining streams, etc.; quite different from the reduction of Peace River flow, the entire loss of springs such as Kissengen Springs, and other impacts attributed by the USGS, in part, to mining. See also Ex. 4, p. 2 (map of artesian conditions). It is this nonmining state which must be used as the baseline for analysis in the EIS for any further mining, for water issues as well as wetland preservation, because if no further permits are issued the mining impacts will eventually diminish as reclamation is completed and groundwater pumping ends.

As discussed below, the DAEIS fails to consider the cumulative impacts of mining by separately identifying projected aquifer reductions and flow decreases from separate mines, and the impact of existing mines, without ever adding them together. Its underlying error, however, is the failure to identify the aquifer and flow recovery which would occur under the No Action Alternative, AFTER CURRENTLY PERMITTED MINING SUPPOSEDLY CEASES (It is hard to identify a clear date as the miners say they may add infill properties and extend their mining dates). This no mining scenario is the true base case, the true No Action Alternative.

A hint of the recovery which could occur without further permitting is provided by the chart above, Ex. 1. That chart shows the drop in mined and unreclaimed lands, and the drop in surface water capture acreage as current mining winds down, until 2018. If that wind down were permitted to continue, till reclamation of current mines were completed, one would see the true no action alternative.

Further, by and large existing mining was approved without an EIS (the 1976 study has clearly been out of date for decades). Existing mining was never properly reviewed for environmental impacts and basing further mining on the assumption that the devastation caused by existing mining is OK is an insupportable assumption.

The CEQ regulations state that an EIS shall serve as the means of assessing the impact of proposed actions, rather than justifying decisions already made. 40 CFR 1502.2 (g). An EIS requires consideration of cumulative impacts, which means past impacts **PLUS** current impacts, **PLUS** reasonably foreseeable future impacts. 40 CFR 1508. The baseline for the AEIS assessment, and the no action alternative, must be the state after current mining is reclaimed, not the state resulting from the damage which has already occurred.

## E. The DAEIS Improperly Relies on Annual Average or Other Long-Term Average Data.

**-The DAEIS relies consistently on annual or even longer term average data and thus fails to consider seasonal variations, as well as drought and other conditions, which are concealed by long term averages-**Throughout the AEIS the document compares phosphate impacts to long term averages, e.g. for surface water flows and for water quality measurements. See further discussion below. Limiting consideration to long term averages entirely conceals the significance of impacts during shorter term events such as seasonal changes (rainy season and dry) and droughts, a common occurrence in the CFPD. The result is to entirely hide water quality violations and damage from surface water capture and overpumping of the aquifer.

The CFPD is within the Southwest Florida Water Management District (SWFWMD) Southern Water Use Caution Area (SWUCA), defined because of overpumping of the aquifer and long term drought effects. The mining impact is in fact worse than described by the annual average; the mining companies actually use more water in times of drought, since they don't have access to rainwater on their mine sites and must pump more water to make up for that shortfall.

As simply one example of the significance of seasonal data, Ex. 4 is a presentation by Terrie Lee of the US Geological Survey to the USEPA's State of the Science Conference on phosphate mining. Page 12 of that presentation demonstrates the modeled depth of water in depressional features and wetlands in the wet season vs the dry season in 2004. The difference is striking and clearly important for an understanding of the functioning of those wetlands: yet the difference would be entirely concealed by an annual average discussion.

It is important to put Mosaic's water use in perspective. Exhibit 5 is an April 30, 2009 article from the Tampa Bay Tribune identifying the largest water users in the Tampa Bay area, in the third year of a drought. Mosaic was the largest, by many times, using 17.77 billion gallons, with the next largest using 3.22 billion. CF came in at 2.79 billion. The article points out that many of the other largest users, such as agriculture, also can not reduce their use during drought.

Exhibit 6 is an article from the Charlotte County Sun Herald (July 27, 2008) regarding Mosaic's pending application for its new water permit. That application, for 76 million gallons per day, was "triple the quantity of water the Peace River/Manasota Regional Water Supply authority delivers to its 200,000 customers in its four-county region each day."

On February 16, 2012 SWFMWD gave notice that it proposed to issue Mosaic's new Mega-Water Use Permit (Mega WUP). Exhibit 7 (excerpts). The Mega WUP provides an annual average pumping allocation of 69.6 MGD, and **a peak month limit of 87 MGD.** The need to consider actual peak usage is recognized by SWFMWD, it should not be ignored by the AEIS.

Floridan aquifer groundwater usage for mining is 85 mgd or 8.5% of total usage, 4-195, a substantial commitment of our resources, for free. While the DAEIS touts the reduction in total usage from past extraordinary excesses, the fact remains that the miners are not willing

to limit themselves to the levels of their low usage months or years. They insist on the right to peak month limits, in Mosaic's case 24% higher than their annual average allocation. Inevitably they will take these larger quantities in drought, when every other user of the aquifer needs them too. Their impact must be measured by the damage they can in fact do.

Preparing an analysis for SWFWMD, Ralph Montgomery of Atkins Engineering comments throughout his document on the failure of the DAEIS to differentiate between seasonal flows and their implications for water supply reliability and cost. Ex. 8, at 1-2, 4-7, 11, 13, 15-16, 19-23. He even notes that the AEIS method "actually hides the real dry-season changes." Id, at 23.

When the mines being considered have operations extending almost to the end of the century (considering both mining and reclamation) the failure to consider the impacts during peak uses and the failure to recognize the impact of other potential water users, agriculture and development, is entirely improper. The fallacy of the long term average approach is echoed in the surface water and water quality areas, discussed below. Long term averages simply hide the impacts which the AEIS should be addressing.

**F. The DAEIS Groundwater Evaluation Fails to Address Central Issues.**

**-The DAEIS never evaluates the mining impact on the surficial and intermediate aquifers.** The sole groundwater analysis provided in the DAEIS is for the Floridan aquifer. As discussed below, that analysis is seriously insufficient, but the initial, surprising, problem with the DAEIS discussion of groundwater is the total failure to say anything about the effects of mining on the surficial aquifer, which feeds the streams and wetlands, and the intermediate aquifer below it.

The DAEIS concedes, and there is a great deal of evidence to support it, that mining affects the water table and negatively impacts nearby wells, wetlands and streams. 3-68 to 3-74. See also a recent study by Sydney Bacchus and others showing the draining of wetland areas near mining operations. Ex.9. Reports of wells in the vicinity of even closed mines show water table drawdowns. A recent appeal of Mosaic's MegaWUP documents water table damage to wetlands on the petitioner's property in the vicinity of the Mosaic mines, concluding that "Mosaic's own data indicates that the mine plan and reclamation plan have failed to prevent impacts to on-site and off-site wetland water levels either preserved or created." See Ex. 10 (Cotter Report at 3, 9 and 12). And the USGS study of Little Charlie Creek provided in the Angelo April 13, 2011 letter, demonstrates the functioning of a creek and surrounding aquifer system BEFORE mining, with upward recharge of groundwater to surface waters, feeding rivers and springs, and contrasts it to the performance of mined watersheds, downward recharge of waters to groundwater, draining rivers. See also 3-61 to 63; Ex. 4.

Data indicates that Mosaic's operations result in significant capture of surface water flows, water resources which are beyond those allocated by its SWFWMD permit. 4-5, 9. See also Ex.10 (attached Cotter report at 3). The graph at 4-191, Ex. 1, shows capture of surface waters from tens of thousands of acres of mined but not reclaimed land. It is ludicrous to think that one can evaluate mining impacts without addressing the surficial and intermediate aquifers, but that is exactly what the DAEIS pretends to do. There is modeling, though

insufficient, of the Floridan Aquifer, but there is no analysis of the impacts of mining, cumulative or otherwise, on the surficial and intermediate aquifers.

**-The DAEIS modeling of the Floridan Aquifer does not address cumulative impacts-**
There is no dispute that the potentiometric levels in the Floridan Aquifer have declined by 20 to 40 or 50 feet. 3-65, 4-190. Intensive studies by the USGS attribute this decline to increasing withdrawals, including withdrawals by mining, changes in drainage patterns through the construction of clay settling areas, ditches and canalization of natural streams, mining land reclamation which leaves large clay settling areas (CSAs) which decrease the hydraulic conductivity of the landscape and rainfall declines. See e.g. 3-66. See also Angelo letter, April 13, 2011, and attached USGS studies. Floridan Aquifer declines have led to the drying up of the Upper Peace River and of springs such as Kissengen Springs. Yet you might not know this data existed by reading the Consequences portion, Chapter 4, of the DAEIS. Despite overwhelming evidence of an already existing serious problem, the DAEIS limits its analysis to modeling the additional drawdown from the four proposed additional mines (actually only two of the four since two mines will continue to pump from former mine sites) and then modeling these mines with other uses **which it pretends will hold steady or even improve.** It does this analysis in a vacuum, **ignoring the damage already caused by existing mines.**

Notably, the limited work the DAEIS does do in fact shows a serious problem. Maps in the document show the results of simulated aquifer level drawdowns as a result of individual mine pumping and indicate significant impacts: slightly less than 4 feet for the Desoto mine, with the pumping occurring at the Fort Green mine in Polk County and the area of drawdown extending across much of the CFPD, 4-76, 6 feet at Ona, further south, with the area of drawdown to 0.5 feet extending across much of the southern part of the CFPD. 4-75 to 4-78.

No analysis was provided for Wingate or South Pasture Extension. It is assumed they will continue the pumping of existing mines. And no analysis either is provided for the two alleged alternatives, Pine Level and Pioneer.

The impacts identified must be added to the existing degraded state of the aquifer. This is not provided by the DAEIS. Nevertheless, a suggestion of the impact is provided by the Corps' analysis of the No Action alternative.

Because the Corps defined the No Action alternative to include the continued operation of existing mines, that circumstance was pictured at 4-65 through 4-69. Significantly, as those existing mines are phased out the depressed aquifer rebounds significantly, over 6 feet at the most impacted point, and the rebound extends well beyond the boundaries of the CFPD. 4-69. This rebounded condition is much closer to the true base case and is an obvious improvement over current conditions. The "improvement" demonstrates just how bad things currently are. The DAEIS describes these improvements as "relatively small." 4-70. Yet they represent an improvement of 15 to 30%, not "relatively small" by any normal use of those terms. And if the Corps had used the No Action alternative (phase out of mine pumping) with the improvement in aquifer levels which it models elsewhere from the limiting of agricultural pumping it is clear that a substantial improvement would be available. Using the 4-65 to 4-69 maps together one can infer the significant contribution of groundwater withdrawals for mining to a very degraded Floridan Aquifer System, degraded to the point that SWFWMD has

declared the area a Southern Water Use Caution Area and has had to take measures such as limits on residential usage, a clear economic cost from mining which is borne by the general population.

The text does not discuss these points. Apparently it is hoped that the reader will miss them. Instead, to cover the damaging information being conveyed, the draft creates a red herring, a discussion of the impact of mine pumping on wells west of the CFPD, where saltwater intrusion is already a concern as a result of overpumping for development and other uses, and east of the CFPD, and concludes that there won't be a lot of impact on these wells. But in fact the draft concedes, as it must, that Peace River wells, will be impacted, at least through 2045, 4-220, and the simulation at 4-69 shows clearly that the western wells, the saltwater intrusion wells, are already negatively impacted by phosphate pumping and will recover when pumping ceases.

**-In order to minimize the mining impact the DAEIS assumes that everyone else will use less.-** Oddly, when the DAEIS does what it pretends is a cumulative analysis, the charts of impact look like they get better. See 4-213, 215, 217, 219. This is because the analysis assumes that agriculture will pump less and no one else (e.g. residential uses) will use more, despite population growth. This is an argument which is used at several points in the DAEIS, any otherwise intractable problem can be ignored because SWFWMD will fix it. The DAEIS assumes that the excessive pumping by the phosphate mines will be offset in the future by SWFWMD efforts to limit pumping by anyone other than the miners. See e.g. 4-207, 230 (After 2025 SWFWMD will require 50 mgd reductions in pumping for agriculture and other users will be limited to 600 mgd). Leaving aside the likelihood that political reality will intervene, several facts demonstrate how incorrect these assumptions are.

First, the DAEIS assumes that agriculture will increase from 665,000 acres to 1,027,000 acres in the Peace and Myakka watersheds by 2030. 4-201. The DAEIS also acknowledges that populations will continue to grow, and will need potable water (In fact, the Figure at 3-131 showing areas of expected population growth shows the 2060 growth occurring smack dab in the middle of the mining areas proposed for Desoto County), but concludes that these populations will just have to get their water from some other source (e.g. surface waters or wastewater or conservation). 4-63. The hypothetical 50 mgd SWFWMD reduction for all of agriculture is less than the Mosaic allocation alone, but no data is presented to support this hypothesis, which is just that. (The document does not address, for example how the volumes allowed to agriculture vs mining will actually restore the aquifer or how agriculture will cooperate in limiting use or how surface waters will be available for substitution when the mining companies also reduce the total surface waters available). It is clear that in fact the DAEIS is presenting a shell game, pointing to one option and then switching to another when the first is disclosed as useless. But most alarming, the only big user which will not be limited in water use in the future, under the assumptions of the DAEIS, is phosphate mining. This assumption, arrived at in order to avoid the troubling consequences of the modeling results, is contrary to the intent of NEPA. Mining consumption is not only large "in the eyes of the public" as claimed by the DAEIS, 4-207, it is large as an absolute measure, and absolutely nothing is being proposed to change that.

Because of the clearly unrealistic assumptions, there is no actual cumulative analysis of mining groundwater impacts in the DAEIS, but one can get a sense of the issue by taking the impacts of the new mines and adding the so-called no action alternative which identifies existing mine pumping. 4-65 to 69 and 4-75 to 78. At their point of greatest impact existing mines represent an aquifer drawdown of 6 feet (when rebounded). Ona is 6 feet. Desoto is almost 4 feet. In each case the impact is across much of the CFPD. While the numbers don't precisely overlap, the points of withdrawal are fairly close and a cumulative impact clearly exists, which the DAEIS does not consider. These should have been added to the continuing pumping allowed for South Pasture and Wingate, pumping for Pine Level and Pioneer, and any other mines which will continue to operate due to infill projects and small projects such as Surface Tract.

While the drafters may argue that the mining companies usually use less than their total water allocation, in fact they are likely to use the most during droughts (when their surface water systems are not fed by rain). Unfortunately this is also the time when the natural systems and everyone else need the water the most. Similarly they have parroted Mosaic's hydrologist, Garlanger, in arguing that Mosaic recycles 95% of its water. 3-63. (Garlanger has also opined that Mosaic is only 10% responsible for the drying up of Kissengen Springs, 3-65, another odd use of science). This 95 % figure, however, does not mean the mining companies pump less than their permitted amount, it means that their actual water usage is many times more than the amount they can pump. In fact at another point in the DAEIS discussion it is noted that the decrease in surface water flows is due to the amount of water impounded at each mine. See e.g. 3-71. The actual amount of water, surface or groundwater, devoted to mining is extraordinary; yet the DAEIS does not address it. (One way to consider it is to look at the 95% recycling claim, which suggests a total usage of 1400 million gallons per day-if almost 70 mgd pumped represents 5%, total usage would be almost 1400 mgd. Another way to consider the impact would be to add the total pumping to the reductions in surface flow due to each mine, existing and new, perhaps using Ex. 1 again, but the DAEIS doesn't provide the data to do that, though it clearly exists).

Finally, while the DAEIS is extremely inconsistent in its data on the length of time that mines will operate, **it is clearly possible that the impacts identified will last till close to 2090.** See estimate of life of Pioneer mine plus 10 years of reclamation. 4-81. As noted above, the so-called "alternatives" analyzed are really just outlines of areas for future mines, which would extend these impacts almost to the next century. The groundwater impacts identified by the AEIS, though not addressed cumulatively and never discussed, are truly devastating, over space and over time.

**-The DAEIS inadvertently reveals the great value of the water which the mining companies use for free.**-Notably, the draft discusses the fact that the Desoto mine, in southern Desoto County, will have to rely on water pumped via a new pipeline from the Fort Green Mine in southern Polk County because **wells at the Desoto mine itself would be too close to Charlotte Harbor and have a higher risk of creating saltwater intrusion.**

Additionally, the draft notes that if the No Action Alternative were selected the waters currently used by the mines and gradually given up, **"would likely be highly sought by other users."** 4-63 (emphasis supplied). This is an extraordinary statement and is also nowhere accounted for when the economic costs and effects of mining are calculated. The

enormous amounts of water which Mosaic and CF are allowed to pump for free, primarily just to transport their material as cheaply as possible (see discussion of alternatives below) are an invaluable gift to the miners, which would be of great value to other users. **The incredible value of this free gift is demonstrated by the fact that Mosaic plans to build a pipeline across almost two counties to get this free water to the Desoto mine.** This lost opportunity to other economic uses, a resource opportunity cost, is a very substantial cost of mining and should be acknowledged by the DAEIS.

Water use for mining is incredibly wasteful. Most of it is used to slurry the matrix so it can be pumped to the beneficiation plant and then to slurry the sand and clay back to the mine for reclamation. Water is simply a free transportation medium. As discussed below, we know that other mines in Utah and Idaho use trucks and other dry methods to transport matrix. We also know that prior EIS documents have considered alternative means of transport. See 1-27 to 1-28. We further know that Morocco uses a conveyor belt to transport its mined material. Ex.11. Clearly those dry transport alternatives should have been discussed in the DAEIS.

## G. The DAEIS Surface Water Discussion Fails to Provide a Cumulative Discussion of Impacts

The surface water discussion entirely fails to address the cumulative impact of surface water flow losses, the loss due to proposed mines in addition to the impact of existing and past mines. It does not address actual flow impacts within the CFPD. It evaluates all impacts so far downstream as to conceal impacts within the watershed. It further fails by identifying individual mine impacts on an annual average basis, rather than a seasonal discussion which is important for habitat impacts (a problem which is addressed below).

**-The DAEIS never addresses the cumulative losses of surface flow from mining, even though they are clearly significant**.-At no point does the DAEIS do the obvious, calculate the loss in surface flow from the mines proposed, and add it to the loss of flow from existing mines. This is clearly data they have, or could easily access. Ex. 1 includes a sheet from Mosaic's Corps permit application for the South Fort Meade extension mine. Like the chart at 4-191 it shows in graph form the mined land not yet reclaimed. But it also describes this land as the "Capture Area" of existing mines, because these are the acreages of surface water which are retained within the mines and isolated from the surface water system. The totals are staggering, over 25,000 acres in 2000.

That the Corps is well aware of the importance of this data is illustrated by its discussion at 4-190 to 191. At 4-191, Ex.1, the same kind of chart is used, but without reference to the fact that the data shown also represents the Capture Area. Clearly this data could have been used, but wasn't to calculate the cumulative loss of surface flows. In fact the chart shows that the mines proposed will lead to a loss of 35,000 acres, almost as much as the highest level ever, in 1995 (Ex. 1, South Fort Meade graph, indicates that amount was about 43,000 acres, the DAEIS claims it was 39,000, either way it was enormous). **Bottom line, this data shows that the Corps recognizes the importance of mined land not yet reclaimed as a capture area for surface waters, yet the calculated impact on surface waters, existing mines plus proposed mines, is never provided or considered.**

The DAEIS acknowledges, and indeed emphasizes, that the process of developing a mine essentially removes the mine area from the surface water system, with ditches and berms around the perimeter and dewatering of the area inside. The mine then uses all water captured within its boundaries, which means that the captured surface water is no longer discharged to rivers and streams. 3-71 to 76. In fact the DAEIS admits that this capture reduces surface flows so that mines may discharge for only a few months a year, or even less in drought situations. There is ample evidence that mining substantially contributes to loss of surface flow. See also 4-231(indicating that improved aquifer levels may increase baseflow, which will in turn result in more capture by the mine ditch and berm systems, with the result that the rivers will not necessarily benefit from improved baseflow. )

Note that there is serious question whether the 4-191 chart, found in Ex. 1, even shows the full damage since it appears to exclude nonmandatory mined lands. This potential failure is suggested by the fact that past mines, shown in light blue, are claimed to be entirely reclaimed in 2005. Since we know that some tens of thousands of acres of nonmandatory mined lands haven't been and will never be reclaimed it appears that they are not included in this chart. (According to the SWFWMD Peace River Comprehensive Watershed Management Plan-Vol. 1, 2001 (Draft), cited in SWFWMD MFL draft for the Upper Peace River, 2-19, some 28,500 acres of nonmandatory mined lands in the Peace River watershed have no funds for reclamation. Adding 28,500 acres to the graph readings for unreclaimed lands would make the 2017 low of 14,000 acres higher by over 200%, 32,500 acres. The 2036 high of 35,000 acres unreclaimed would be 63,500 acres. The actual impact is worse even than disclosed at 4-191, Ex. 1, but in any case it is clear that the DAEIS has never disclosed and discussed the impact of proposed mines as well as mines not yet reclaimed on surface waters.

**-There is no question that there has been a loss of flow in the Peace River over time-**
There is no dispute that there has been a loss of flow in the Peace River over time. The DAEIS attributes this primarily to a rainfall deficit. The DAEIS notes a SWFWMD study, believed to be based on Mosaic consultant John Garlanger, that 90% of the flow loss at Zolfo and Arcadia and 75% of the loss at Bartow are correlated to rainfall deficits. 3-43. Look at the other side of those numbers. Ten percent of flow at Arcadia in a river the size of the Peace is highly significant. But the intensive mining during the study period took place further north where the Bartow station would have been impacted, with a 25% loss not attributable to the AMO, a staggering loss even by Mosaic's own calculations. The findings cited simply illustrate that you can minimize the apparent impact simply by going further downstream and writing off the area in between. This is a tactic used throughout the DAEIS.

As noted below in Section I, in connection with land use effects on rainfall, there are scientific studies by prominent meteorologists, ignored by the Corps, which tie rainfall changes to development leading to changes in land use and elimination of wetlands. The USGS has also shown that flow losses are tied to overpumping of the Floridan aquifer by agriculture and mining. SWFWMD, supported by the mining companies, has attributed the rainfall loss primarily to the Atlantic Multidecadal Oscillation, or AMO, a larger climatic event having to do with variations of water temperatures in the Atlantic ocean (conveniently the AMO has a spectacularly irregular period, making it hard to predict its impact or readily test its hypothesis). Oddly, the essentially unmined Myakka has NOT shown losses, despite the

AMO. 4-197. The DAEIS never acknowledges or considers these much more realistic explanations.

Besides the failure to look at meteorological rainfall studies, what is wrongheaded about the Corps approach is the failure to look at flow losses upstream, within the CFPD, at the vicinity of the mines. Even if the AMO has an effect on regional flows, a conclusion which in fact explains very little, that does not mean that flow losses from activities such as mining and localized climate impact within the CFPD are not significant and shouldn't be considered.

**-The DAEIS approach conceals the local effects of mining by measuring far downstream of the impacted areas-**The draft AEIS addresses surface flow impacts by assuming a simplistic approach to the overall runoff from a mined area and then comparing that impact to a measured flow at a downstream location, usually the gaging station at the Peace River at Arcadia. But this gaging station, and the others used by the model as well, are relatively far downstream so that localized impacts are hidden. (Note that there is no map which shows mine locations, potentially impacted rivers and the gaging stations identified in the analysis. One must tease this out by looking at several maps together. A more appropriate way to look at impacts would be to look at gaged flows at portions of the basin before and after mining, far enough upstream to see whether there is an impact. This was not done, even though it was proposed by USGS, and urged in the August 13, 2011 Angelo letter. This work would also help identify whether mined and reclaimed lands have continuing impacts after reclamation, for example from the 40% coverage of clay settling areas (CSAs) which are barriers to recharge and sources of increased evaporation.

The practical effect of the DAEIS approach is to treat the CFPD as a whole and to conceal local impacts within it. This is unfortunately consistent with the overall approach of the AEIS, which we have criticized: it writes off the CFPD and essentially abandons it all to mining.

**-But, even taking the data contained in the AEIS, the mine impacts are significant.** Assuming annual average rainfall of 50 in. per year, at 4-232 the DAEIS reports that the impact on Horse Creek from the mines which impact it will be a 16% loss of flow in 2030. This highest level impact will continue for 10 years but significant impacts will continue even through 2060.

Wingate East and Pine Level/Keys will result in a decrease of 13 cfs in flow of the Myakka to Charlotte Harbor, or 2%, with impacts, though lessened, continuing after 2060, when it will still be 11 cfs. 4-235.

The total decrease to Charlotte Harbor is predicted to be 41 cfs or 2% for several decades. 4-237. (This figure may not include the impacts from South Fort Meade which continues in operation until at least 2036).

Without calculation, reference to expert opinion or even real discussion, the DAEIS dismisses the significance of these numbers, including their impact on Charlotte Harbor salinity gradients. But, **how can a loss of flow of 16% for well over 10 years time, longer if reclamation is delayed, in one of the largest and most pristine tributaries of the Peace River, not be considered significant and deserving of discussion? There is no**

**analysis anywhere of what the loss of 16% of flow for a decade and more means to a river like Horse Creek. There is no analysis anywhere of what the loss of seasonal flows means for water supplies which must draw from the Myakka and the Peace, or construct additional storage capacity to make up for the DAEIS "average flow" analysis. And, as noted above, there is no analysis anywhere of the amount of loss from proposed mines <u>in addition to the loss from past and current mining</u>, even though this is the central requirement of a cumulative impacts analysis.**

Unfortunately, in order to understand impacts one has to make one's own time charts of overlapping operations and times of impact. The only time chart in the DAEIS, 4-173, does not contain flow impact data. Nor does it include reclamation periods (when pumping is still necessary) or additional future mines Pine Level/Keys and Pioneer. The calculations presented above accept the DAEIS assumption that mining areas will be reclaimed, ditches and berms removed, and the surface water flows returned to the river systems on schedule (although the text does not give the schedule for reclamation and at different points the DAEIS assumes 3, 8, 10 and even16 years after mining). The reality of course is that the mining companies are rarely on schedule. Reclamation is frequently delayed, which means surface water impacts will continue well beyond the assumptions of the DAEIS.

The DAEIS concedes that mining infill projects, not considered in the DAEIS at all, can also add to the life and total acreage of a mine.

The failure to identify impacts during natural low flow conditions, the failure to consider the full duration of loss, the failure to consider cumulative impacts, and the failure to consider the consequences of substantial loss of flow over time to the affected water supplies or to a river like Horse Creek makes the analysis entirely insufficient.

## <u>H. The Destruction and/or Insufficient Reclamation of Wetlands and Surface Waters Have a Permanent Impact on Ground and Surface Water Systems.</u>

**-Disruption of surface and groundwater flows to creeks and streams by incomplete, though standard, reclamation is permanent but is never discussed and no inventory of wetland losses, past or future is ever provided**-Nowhere in the DAEIS is there a discussion of an issue clearly called to the Corps' attention by the USGS and by the Environmental Groups. Mining permanently disrupts groundwater flow into surface waters. Reclamation never fixes this. In fact reclamation is simply designed to recontour and plant mined-out areas. See 3-17. It does not attempt to recreate the groundwater regime and its flow toward the rivers and streams. See e.g. 3-69 to 70 which shows that groundwater levels and hydraulic conductivities vary depending on the type of reclamation-most reclaimed areas did not mimic natural systems.

Thus, the assumption of the DAEIS, 4-164, that state reclamation requirements will be met and confine impacts to the mine footprint is simply wrong. See the numerous discussions about broader and continuing impacts, below.

In addition to the permanent presence of CSAs throughout the former mine site, there is substantial data to show that current methods to reclaim wetlands don't work. See discussion

in this section below. The draft document does not discuss that issue, and it certainly does not contain any studies to resolve it, though the Corps was urged to do that very work as part of the AEIS, in light of the enormous acreages of wetlands and streams involved.

Surprisingly, the DAEIS never discloses the total loss of wetlands or stream lengths to mining, past and present and future. (The data at ES 5, 1-16 to 19, 4-30 and 4-192 are incomplete and internally inconsistent. ). This is an obvious predicate to any discussion of the impacts of over 50,000 acres of further mining disruption yet it is missing in the DAEIS document. Nor is there any discussion of the total amount and period of time for wetland loss due to the new proposed mines and the impact of that temporal loss. While the graph at 4-191, Ex. 1, shows us how significant the issue is, there is no discussion which identifies wetlands lost in the past or wetlands to be lost for decades under future mines and what that total cumulative impact will be.

**-The DAEIS never acknowledges the permanent damage to base flow from CSAs-**USGS studies have identified CSAs as an impediment to groundwater recovery by providing a permanent barrier to flow, both by blocking infiltration and by interrupting base flows. It is acknowledged even by the industry that CSAs can permanently occupy 40% of the post-mined landscape. The USGS estimates 40-60% and attributes flow loss in the upper Peace in part to CSAs lining the banks. The DAEIS recognizes extended periods to reclaim CSAs and limited uses once reclaimed, but doesn't define either one. 3-6. At 4-96 the document assumes 3 years, which it must realize is obviously insufficient since at 4-166 it refers to several decades. The DAEIS discusses groundwater lowering in the Floridan aquifer from pumping, and surface water capture by mine systems, but never addresses the loss of groundwater flow to the surface water systems such as the Peace River and Horse Creek due to CSAs. This is a serious omission.

**-The AEIS analysis fails to consider the contribution of small streams to the watershed as a whole**- Speaking at the CHNEP conference on phosphate mining, the State of the Science, Terrie Lee of USGS addressed the importance of small streams to the health of a watershed and urged the use of LIDAR to identify such streams and wetlands. She further urged the maintenance of buffer zones along streams to preserve the effectiveness of the system. Lee's presentation is enclosed as Ex. 4.

Lee's comments are echoed by the summary of Thomas Fraser, attached as Ex. 12. Fraser, a Research Associate at the Florida Museum of Natural History, points out that the DAEIS simply classifies streams as intermittent or perennial, rather than 1$^{st}$, 2$^{nd}$, and 3$^{rd}$, order, a more precise classification which would be a better assessment tool for considering the impacts of mining. He notes that stream lengths and stream gradient are important items of data to assess for reclamation purposes, but have been ignored by the DAEIS. According to Fraser, studies by the state in the 90s show that it is not possible to rebuild streams on mined land and have the same fish communities as natural streams. Mining practices often cut off part of stream watersheds, reducing natural flow to downstream non-mined streams.

Fraser notes that levels of dissolved solids and pH play important roles in the presence or absence of some fish species. Almost all monitoring has been done in larger more buffered streams while in fact, the comparisons that should be made are in natural stream segments unaffected by cutoff stream segments. These are generally first and second order streams,

often very acidic, with low total dissolved solids within forested systems. Fraser cautions that streams which have existed for 100s of years cannot be destroyed and rebuilt in a span of 10-20 years. He urges that the phosphate industry should avoid most stream systems because they are among the most important habitats that mirror specific small watershed characteristics and maintain natural stream flow to larger streams.

The DAEIS does not dispute the importance of baseflow from surficial systems to streams and wetlands, see 3-59, but never addresses the function of such small stream segments or the effectiveness of restoring them, again consistent with the improper assumption that the CFPD will simply be abandoned to mining.

**-There is no discussion of the dewatering impacts of mining**-The DAEIS acknowledges that mining results in dewatering. See 3-68-69, 4-193. See also the studies of Sydney Bacchus, Ex. 9. The mining companies argue that their mining techniques protect wetlands by ditch and berm systems and other methods. Despite these protestations, authorities such as SWFMWD note that they have seen concerns with wetland dewatering as a result of mine pumping and mine dewatering. See Exhibit 6 (Greg Martin article). SWFMWD points out that "quantity is not the only factor considered when assessing adverse impacts: location of where the quantity is being withdrawn is just as important." SWFWMD required Mosaic to mark on maps its withdrawal points and mines in relation to the Peace River, wetlands, lakes, contamination sites and areas where SWFWMD has set minimum flows and levels. Id. Despite this the DAEIS does not address the damage due to local wetland dewatering and nowhere provides the straightforward map information deemed essential by SWFWMD, the relationship to rivers, lakes, wetlands, contamination sites and minimum flows and levels areas. The DAEIS pretends that SWFWMD will solve the problem, 4-164, there is no evidence to support this shifting of responsibility. Indeed SWFWMD reports that major water users, other than mining are moving into the southern portion of the basin, 4-194, where they will exacerbate the mining impacts.

Mosaic officials, responding in the Martin article cited above, are described as saying that the crux of the discussions with SWFWMD is over trigger levels. "Mosaic is trying to reach agreement with the district about what level of ecosystem degradation would trigger a remedial action." Ex. 6. Read this again, Mosaic is trying to negotiate an acceptable level of "ecosystem degradation."

Yet the DAEIS never recognizes the possibility of "ecosystem degradation." There is no excuse for this ostrich like behavior. The full set of SWFWMD questions to Mosaic were provided to the Corps. The Corps' approach is consistent with the concerns expressed above: the Corps has simply decided to abandon the entire CFPD to mining. This is egregious and highly improper.

**-The DAEIS fails to consider the comments of Brian Winchester about the difficulties of restoring wetlands**-On April 22, 2011, Brian Winchester, an expert in wetlands evaluation and restoration, submitted comments in the scoping process on behalf of ManaSota-88 and 3PR. Unaccountably the DAEIS and the Corps records fail to acknowledge receipt of those comments and fail to address the important issues raised by Winchester. Those comments are submitted again as Ex. 3.

Winchester tied his comments directly to the 1990 Memorandum of Understanding between EPA and the Corps about how wetland mitigation must be accomplished and to the Wetland Compensatory Mitigation Rule (CMR), effective June 9, 2008. 33 CFR Part 332. He noted that there are serious questions whether industry standard mitigation practices are meeting those rules, and good reason to believe they are not.

Winchester noted that the Corps in the DAEIS should evaluate which wetland mitigation approaches being used by the mining companies actually comply with the CMR, which requires a "watershed approach," an "analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed." 33 CFR 332.3(c)(2)(i). Under the CMR the landscape position of reclaimed wetlands and the protective function of non wetland riparian areas such as buffers must be considered. Under the rule reclaimed wetlands must exceed the wetlands lost in terms of both area and function. More protective mitigation ratios are required and there is question whether they are being applied. Wetland mitigation must be "in kind," meaning that the wetlands replaced must be of the same kind and function of those lost. (In the past the only distinction has been between forested and non-forested wetlands). Winchester notes that there is no data that reliance on the FDEP wetland reclamation rules meets these CMR standards, including the time lag necessary to achieve similar community and physical structure.

The CMR has special standards for difficult to replace resources. And special attention is paid to the need to assess whether systems such as perimeter recharge ditches and injection wells to protect wetland systems actually work to prevent dewatering and protect headwater bayhead and other seepage wetland systems.

Winchester points out that historic practice has been to allow the permittee to come up with a detailed mitigation plan after permitting, in direct contravention of 33 CFR 332.4(c)(1)(i) and 332.7 (c)(7). This prevents any objective evaluation of whether mitigation will work until after mining is underway, or at least permitted, avoiding the intent of the CMR as well as any real evaluation of mitigation success. Similarly, Winchester states the DAEIS needs to evaluate whether the performance standards specified in permits are "objective and verifiable," 33 CFR 332.5(a), and are actually working to insure a gain in wetland structure and function, and whether sufficient monitoring is required over time. Are released wetlands in fact providing a gain in wetland area and function. He says that neutral empirical evidence suggests they are not.

Winchester notes, as have others, that two wetland evaluation methodologies (WRAP and UNAM) are commonly used and that now that CMR is available it is past time to determine whether either or both or neither system actually meets CMR standards. This has not been done, though it should have been an important part of the DAEIS analysis.

Winchester states that many invasive exotic species have become established on even recently reclaimed minelands, in some cases forming virtual monocultures covering many square miles. He urged the DAEIS to examine the cause of this proliferation and domination of exotic and nuisance species on so-called reclaimed lands.

It is apparent that the DAEIS simply does not recognize the need for reclamation which is in kind in amount and function. The failure to consider the Winchester comments, though

supplied, is improper. But beyond that the DAEIS should have shown awareness of the CMR and how reclamation practices in the past have not been sufficient.

The mitigation section of the DAEIS is truncated, conclusional and based entirely on the biased evaluations of the mining companies. There is ample evidence, ignored and not even included by the Corps, that mitigation is not successful. Failure to consider that information is a fatal flaw in the DAEIS discussion.

**-The AEIS makes demonstrably false assumptions about the success of reclamation and the impacts of reclamation delays and failures**-While the AEIS makes differing assumptions in different places, all of its inconsistent assumptions about the completion of restoration are also inconsistent with reality.

Cynthia Barnett in her book "Mirage" indicates that ¾ of artificially created wetlands fail. Ex.13, at 86. She also cites the 2005 investigation by Craig Pittman and Matthew Waite in the St.Petersburg Times which used satellite imagery of land cover to demonstrate that at least 84,000 acres of wetlands in Florida had been lost during the 15 year period after President George H.W. Bush declared the national policy to be "No Net Loss." The same reporters found that the Corps allowed a higher percentage of wetland destruction in Florida than in any other state. Id. at 87. The DAEIS admits that wetland quality is lower overall than predevelopment, due in part to mining. 3-107.

The DAEIS indicates that the soils in the Peace and Myakka watersheds are actually more likely to be sandy, with a high water table, than the CFPD as a whole. 3-19 to 20 (Peace 49%, Myakka 63%). This indicates a high potential for runoff and wetlands, id., suggesting that the impact of mining in the future could be greater and even more damaging than in the past. Similarly the wetland map provided at 3-109 indicates that the area proposed for mining has significant wetland areas, including wetland hardwood forests, the most difficult to replace. At 3-112 the DAEIS contains a summary of wetlands currently within the CFPD and its watersheds. The Peace and Myakka between them have approximately 63% of the total, suggesting the magnitude of the threatened loss, and, possibly, the magnitude of the past loss as well. The impact of these past and future losses is never discussed in the Consequences section of the document.

In the face of these facts the DAEIS nevertheless assumes that reclamation will be complete just a few years after mining ceases. (The DAEIS estimates actually vary quite a bit at different points, with little explanation of the inconsistency. See discussion in Section U, below). This assumption underlies many conclusions, about the period of stormwater flow interruption, the period of groundwater pumping, and the period of wetland disruption and lack of vegetative cover. The AEIS needs to be blunt, the period before reclamation is the period when the ground looks like a moonscape, and this goes on for years. Nowhere does the DAEIS acknowledge the very damaging impacts of this period in terms of lost habitat, hydrological function or local climate. The total disruption is quite significant over time. See Ex. 1.

Unfortunately, even if one were to assume successful reclamation, despite the evidence it doesn't exist, the moonscape period is usually much longer than assumed by the AEIS. The State Financial Responsibility Report (2010), see Ex. 14, states that Mosaic, for example,

has substantial reclamation deficits at Four Corners/Lonesome (-7325 acres), South Fort Meade Polk County (-1925 acres), Hookers Prairie (-103) and Fort Green (-1993 acres) and CF has a deficit at South Pasture (-1014 acres). These deficits, periods of moonscape **after** mining, are **in addition** to the allowed period of mining and reclamation, and in addition to the formerly mined lands that will never be reclaimed because the state has taken the reclamation funds for these lands and used them instead for gypstack emergency response. There does not appear to be any estimate in the DAEIS of the total amount of moonscape acres. The troubling graph at 4-191, Ex. 1, may actually represent an optimistic view of the future since it apparently excludes nonmandatory acreage and assumes timely reclamation.

Any objection that this permanent destruction of the land during the nonmandatory period was done by others must fall on deaf ears. An EIS must look at past impacts. And we know that in large measure the mining companies of the past have been merged into the companies of the present and future. See Notes to ROR Reports, Ex. 15. There is no unfairness in following the mandate of NEPA that the current mining plans of Mosaic, which has bought up almost every active miner in the CFPD except CF, must take account of the past damage done by CFPD miners.

The State Rate of Reclamation Report for 2010, Ex. 15, states that 71% of mandatory mined lands have been reclaimed, though not released. Using the data supplied, however, the actual percentage appears to be 67%. Further only 38% have been reclaimed and released. Some of this "reclamation" is for industrial use; the amount is not disclosed. Since the period of required reclamation is 35 years (1975 to 2010), it is clear that a reclamation rate which still shows about 1/3 of the land mined since 1975 unreclaimed, even under the relaxed definition used, is abysmal.

Individual mine data gives the lie to the idea that the system of reclamation works. The Agrifos Nichols mine, now owned by Mosaic, has only 41% reclaimed and released, even though mining ceased some time ago. Pebbledale, also a former mine, is 37%. Mosaic's Fort Green and Hooker's Prairie mines have only 29% each reclaimed and released. Four Corners/Lonesome is 12%. CF South Pasture is 0%. Id.

As explained in our Scoping Comments, April 20, 2011 letter, at 10, and in the Angelo letter of April 19, 2011, the mining companies and the state make the situation worse by seeking and providing variances to allow delays in reclamation obligations. A list of variances was supplied in those comments, as well as a study by Professor Nora Demers showing the prevalence of variance requests and grants. In fact, we are not aware of any variances which have been denied, indicating that the state standards are simply irrelevant in considering the periods of mining impact. Variances are frequently required due to lack of fill material for reclamation, until more mining is done. This suggests that an environmental Ponzi Scheme is at work, one must continue to mine in order to have material for reclamation. What will happen when mining comes to an end and there is not enough sand to fill the last mine?

As noted above, the DAEIS assumes that soils for reclamation will be set aside. 4-164. In fact, as revealed in the variance requests, there is frequently insufficient soil for reclamation, particularly topsoil. Again the DAEIS assumes an issue that is contradicted by the facts.

Also, as noted above, until fully reclaimed and released the mined area is not connected back into the surrounding environment hydrologic system; stormwater is captured and retained on site over thousands of acres. Since reclamation makes no attempt to recreate the subsurface soils and geology (it only recontours the surface and plants vegetation) the groundwater flow systems are permanently disrupted. Clay settling areas, at least 40% of the land surface, are permanent sources of evaporation and barriers to surface water infiltration and groundwater flow. Groundwater pumping from the aquifer continues as it is necessary to support revegetation. **These impacts, both those which are permanent and those which continue much longer than the 3, 5, 8, 10 or more years assumed in the AEIS, are not considered in the AEIS document.**

While acknowledging that the amount of unreclaimed land under the new and foreseeable mines will go up substantially to 35,000, almost reaching the 39,000 peak from 1995 (not including nonmandatory unreclaimed lands of tens of thousands of acres), the DAEIS claims that the most direct measure of the past and present effects of mining is the amount of land reclaimed and that the number will eventually drop. 4-190. For all the reasons given in these comments, this bald pronouncement is clearly incorrect. The impacts are demonstrated in the effects on groundwater, the loss of streamflow, the loss of wetland function, the effects on local climate etc., none of which are diminished by the limited reclamation required by the state. The limited amounts of reclamation and the serious delays in accomplishing it are certainly an additional evidence of the impacts of mining which should be considered.

**I. The DAEIS Gives No Consideration to the Effects of Wetland Loss or Land Use Changes on Local Climate and Rainfall.**

The AEIS gives no consideration to the climatic effects of wetland loss or the presence of vast areas of land stripped of vegetation. (The discussion at 4-165 of regional climate impacts which might affect sea-level rise does not address this issue). This is not a fanciful concern. The USEPA in its comments on the South Fort Meade Hardee County permit called for consideration of the "heat island" effect of such areas. USEPA's concern is borne out by studies which show that changes in land cover and loss of wetlands can and do affect local weather. We are attaching as Ex.16 a study by Roger Pielke Sr. and co-authors Curtis Marshall of NOAA and Louis Steyaert of NASA published in the 2004 Monthly Weather Review of the American Meteorological Society comparing regional atmospheric modeling studies of Florida and contrasting the impacts in light of local land cover changes in 1900 versus 1993. The change in land cover from development, wetland draining and clearing resulted in significant alterations in July-August weather with "marked changes in the spatial distribution of convective rainfall totals over the peninsula." There was an overall decrease in the 2 month precipitation total (10 to 12% less) and an increase in daytime temperatures, and lowering of nighttime minimums. The effect was identified in all three simulated periods. Changing land use led to changing local weather; and the changes resulted in decreases in rainfall and increases in temperature in the summer. The model results were consistent with observational data showing decreasing regional precipitation (12%) and increasing maximum temperatures over the 20$^{th}$ century.

Very similar effects on a local scale are reported by Cynthia Barnett in her book, "Mirage," reporting a study by James O'Brien, state climatologist, working at Florida State University Center for Ocean-Atmospheric Prediction Studies. Based on computer studies O'Brien

observes that urban areas that have been drained for agriculture or development show steady rainfall deficits, a heat island effect. Deficits for Brooksville and other areas north of Tampa begin in the late 70s and early 80s when they were drained for ranchettes. Ocala shows deficits beginning in the early 90s when the thoroughbred horse farms began to be plowed under for subdivision. In contrast, other more rural areas show surpluses and O"Brien concludes that the surplus pattern would have been observed statewide absent land use changes. Ex. 13.

The DAEIS recognizes that land clearing along surface waters may affect aquatic resources through temperature changes, 4-178, but never acknowledges the larger implications of these temperature effects.

Irrespective of any minimal impact from the AMO, these studies by NASA, NOAA and state climatology scientists demonstrate local rainfall changes correspond to the massive changes in land cover experienced as Florida has been developed.

The potential effect on the local Florida climate, with the environmental and economic consequences which must result, has been entirely ignored by the DAEIS. This is scientifically insupportable. A large-scale removal of land cover, some of it permanent, and elimination of natural wetland and waterway features for decades at a time has an impact which should be studied and addressed.

**J. The Cumulative Impacts of CFPD Mining on Water Flows Are Never Addressed.**

As noted above, one must combine three maps (past mining, 4 additional mines and alternatives likely to be mined in the future) and many separate pages of data to identify the total mining impacting CFPD. Yet additional maps must be consulted to put those mines into context with the rivers impacted and the gaging stations used. When you do combine those maps you see that most of the CFPD, leaving out urbanized areas and a few state parks, has been mined or must be recognized as open for future mining. Nowhere does the DAEIS address the consequence of mining this vast area of west central Florida.

We know that mining the northern part of this area has had devastating effects on the Floridan aquifer (drops of 20-50 feet), on flows in the upper Peace River (totally dry in some locations, sinkholes and drying up of Kissingen Springs), on the amount of wetlands and on the total amount of stream lengths. The assumption of the DAEIS is that four more mines won't make the impact **that** much worse. Using the same analysis it apparently concludes that the next mines, which are not in fact alternatives, but are actually on the drawing board, will have the same result, they'll be worse but they won't be **that** much worse. Under this piecemeal approach there will never be a tipping point, we'll start off with serious damage, which we'll ignore, and we'll add 15% loss, and then another 15% loss, and then maybe another and we'll never recognize the cumulative damage. This is the approach of the DAEIS, but it is forbidden by NEPA.

**K. There Is No Discussion of the Impact of These Reduced or Impacted Water Flows on the Charlotte Harbor Estuary**

The DAEIS is missing any discussion of the impact of the proposed mines on Charlotte Harbor and its estuary, an estuary of national significance, an Aquatic Resource of National Importance (ARNI) and an Outstanding Florida Water (OFW). Both the Myakka, a Wild and Scenic River and itself an OFW, and the Peace discharge to Charlotte Harbor, meaning that the impact of existing mines, new mines and the Pioneer and Pine Level/Keys mines will all be felt at the same place, Charlotte Harbor.

The DAEIS quotes the CHNEP management plan: "When these rivers meet the salty water of the Gulf of Mexico, they form estuaries that are one of the most productive natural systems on earth." 3-53.

Reductions in flow mean that the salinity gradient in the harbor will change. See 3-107. As discussed in several studies provided to the Corps, the result can greatly impact estuarine species which require different salinities at different stages of their life cycles. Seasonal variations can be important, which makes the DAEIS focus solely on annual average flows irrelevant to the issue of the impact on these species.

The Peace, Horse Creek and the Myakka all serve as sources of drinking water for Charlotte, Desoto and Sarasota Counties and the cities of North Port and Punta Gorda. 3-84. The DAEIS never calculates the loss of flow, in particular the dry season loss of flow, and the impacts on those water supplies during low flow periods. It never considers the economic costs to the water supply authorities to provide supplies during low flows, when they may be unable to draw from the rivers. Ex. 8.

The DAEIS' sole answer seems to be that since the Peace River Manasota Regional Water Supply Authority can take water from the River, it doesn't matter if mining takes it too. See 3-54. There is a real difference, however, between using the water from the Peace to support residential uses necessary for the health and safety of 200,000 customers today, a present exigency, and planning that in the future one will be allowed to use water which would otherwise support the Peace to move dirt. The DAEIS instead goes on to wash its hands of any responsibility to look at this issue, saying, "Full characterization of the existing conditions within the lower Peace River and in the Charlotte Harbor Estuary cannot be adequately covered in this brief section of the AEIS." Id. Unfortunately they're never covered anywhere else either.

Nitrogen and phosphorus loadings to Charlotte Harbor are discussed below. It is admitted in the DAEIS, 3-92 to 93, that loadings are currently too high to protect the Harbor yet this crucial issue is also ignored in the Consequences section. Nor is any recognition given to the impact of these loadings in light of the demand by USEPA for adoption of numeric nutrient standards for these constituents.

The Corps assured downstream Counties that the AEIS will address Charlotte Harbor. Quite simply, the livelihood and future of these counties, Charlotte and Lee, depend on the health of Charlotte Harbor. These promises have been broken and the DAEIS is fatally deficient as a result.

**L. The DAEIS Fails to Consider the Impact on the Critical Habitat for the Federally Endangered Small Tooth Sawfish.**

The background section, and chapter 6 on compliance with environmental requirements, somehow manages to discuss listed species without any mention of the small tooth sawfish. 3-115 to 117. The Charlotte Harbor estuary has been listed as critical habitat for the juvenile sawfish. Since that designation the Florida Fish and Wildlife Commission has studied the juvenile sawfish and their initial results are reported at Ex. 17, http;//myfwc.com/research/saltwater/fish/sawfish/2010-report-charlotte-harbor-estuarine/. In their sampling most sawfish were captured **at the mouths** of the three major rivers, in areas with certain identified salinities, between 18 and 30 psu. Sawfish moved upriver with increasing salinity. There is a limit to this movement, however, as habitat size and carrying capacity is essentially decreasing.

Changed salinities due to reduced freshwater flows would appear to impact the sawfish critical habitat. More studies are underway; yet the DAEIS does not discuss the potential impacts, or, even better, support studies to answer some of these important questions.

**M. The Water Quality Discussion Fails to Consider the Primary Impacts on Water Quality from Mining.**

**-Studies by the state have shown serious water quality impacts from mining**-When actually studied, it is clear that phosphate mining operations have caused significant water quality impairments on streams within the CFPD. In 2004, as required by law, the FDEP prepared a TMDL (Total Maximum Daily Load) Report for Thirty Mile Creek, a tributary to the North Prong of the Alafia River in Polk County. www.dep.state.fl.us/water/tmdl/docs/tmdls/final/gp3/ThirtyMileCreekDOTMDL.pdf. See Ex.18. The report was required because of water quality violations in Thirty Mile Creek in which the dominant land use, "by far" was phosphate mining, over 61%. Agriculture was less than 15%, municipal discharges were considered insignificant. Id. at 19-20. Violations of standards for Total Nitrogen (TN), Total Phosphorus (TP) and Dissolved Oxygen were identified. Violations varied by season, summer being the most critical condition. Significantly, the report identified an unpermitted, unmonitored discharge from one of the phosphate mining areas which was very high in TN. Bottom line, this formerly mined area, also the site of beneficiation and chemical processing operations, was a significant source of water quality damage both within its watershed and downstream in the North Prong of the Alafia.

Similarly, a 2008 water quality inspection for the Kingsford mine and processing facility, closed in 2005, reported water quality violations of pH to the North and South Prongs of the Alafia, iron to Mizelle Creek and Radium 226 and 228 to the South Prong of the Alafia. ftp.dep.state.fl.us/pub/labs/lds/reports/9501.pdf. See Ex. 19. This is the same area as that addressed by the ThirtyMile Creek TMDL study. The South Prong of the Alafia was reported as showing "stress" from an upstream source. (Part I, page 3. Many more parameters were not sampled because of lack of FDEP lab capacity). Algal growth potentials at all sites in the area were well above the problem thresholds, including at the control site, indicating "there is nutrient enrichment related to the Mosaic Kingsford Mine discharge in this portion of Thirtymile Creek..." Id. at 5. Chlorophyll-a was also high, id., indicating the presence of algal growth. The discussion notes that the so-called control site, in the middle of the mining area,

was "cause for concern" indicating there may be a source of nutrient enrichment in that area of the mining operation. Id. at 6. Even closed sites and sites without apparent discharges present ongoing damage risks.

The background section of the DAEIS describes higher levels of magnesium, orthophosphorous, alkalinity and calcium and gross alpha activity at reclaimed basins, 3-88 to 89. It cites the conclusions of USGS studies that shallow groundwater in mined basins has higher levels of several pollutants (specific conductance, alkalinity, dissolved solids, calcium, magnesium, sulfate, iron, manganese and lead) than unmined basins, 3-99 to 100.

This FDEP and USGS data clearly shows water quality impacts due to mining, but rather than considering the USGS data in its own background section, or the well known problems with the Kingsford mine complex and ThirtyMile Creek, all of which show clear impacts from mining, the Consequences section, Chapter 4, instead chooses 6 other "reference" mines, currently operating, and takes **5 year average** discharge data, even though it acknowledges that actual sample results were highly variable, meaning that the average is both meaningless and misleading. 4-111. It describes this data as "water quality data" even though that is not the accepted use of the term (water quality usually means in-stream measurements, not discharge measurements). Nevertheless, it compares this discharge data, averaging 5 years of results, to water quality standards, an irrelevant comparison. The comparison tells you NOTHING about whether the discharges comply with NPDES permits or whether the total loadings discharged (measured concentrations time volumes) create a potential water quality problem in stream. See e.g. 4-107. The draft notes further that since discharges took place during high rainfall periods they were probably diluted. 4-111. This means the actual loadings of pollutants were probably quite high. In fact this dilution impact is specifically recognized by the MegaWUP permit for Mosaic. See Ex. 7. The pretended analysis of 6 mines is meaningless; it further does not begin to address the contamination found by USGS and the TMDL studies by FDEP.

Confirming the concern about use of average results, the DAEIS reports an occasion of invertebrate impairment downstream of Wingate Creek which it indicated may be due to "high rates of mine discharge." 4-117. While it notes that the invertebrates recovered, the point for the DAEIS must be that mine discharges can indeed have damaging impacts.

While it never recognizes the problems identified in the ThirtyMile Creek TMDL study, the DAEIS nevertheless pretends that the very fact that the TMDL program exists means that SWFWMD will fix any problems. 4-198, 328. This is clearly fanciful, the Kingsford mine closed years ago and nothing has changed. The Mims appeal of the Mosaic MegaWUP, Ex. 10, shows that in fact the mining company is using its aquifer withdrawals to dilute its effluent (an improper practice). The state is carefully avoiding any effort to identify problems, and the DAEIS is complicit in that effort.

Without calculation, and based on a discussion which excludes problems such as ThirtyMile Creek, the DAEIS concludes that water quality impacts are not at a large enough scale to cause measurable downstream impacts. 4-238. In support it cites Horse Creek monitoring, despite the fact that Horse Creek to date is relatively unmined. 4-239. While the Thirtymile Creek report shows that the DAEIS conclusion is in fact not true and that downstream impacts have been measured and are severe, the reality is that if you go far enough

downstream you can hide any impact. This apparently is the strategy of the DAEIS, go far enough outside the zone of influence that you can't measure the damage anymore. As noted above, this simply writes off the environment within the CFPD. It is improper.

The lessons from the ThirtyMile Creek reports are clear. The mining companies' NPDES reports do NOT tell the accurate story. NPDES violations, whether or not limited, can signal serious pollutant loading problems. Damaging water quality impacts are attributable to both mining and processing. Annual average or longer average data will hide these impacts. These impacts are NOT due to agriculture. Seepage and leaks from areas which are not permitted and not monitored are not only possible, they do in fact exist. Even allegedly clean points within the mining areas are in fact compromised. The state authorities do not have the resources to address water quality issues. And damaging impacts are experienced downstream. The DAEIS dismissal of water quality as an issue is simply indefensible.

**-The Peace is higher in phosphate than similar rivers in Florida, and has excessive loadings of other pollutants as well, but that is ignored by the DAEIS**.-The DAEIS at 3-90 admits that there have been past CSA spills into the Peace with generally degraded water quality. This is nevertheless dismissed because things have gotten better, though no data is given. Id.

In fact the USEPA's recent proposal of nutrient standards for Florida proposes phosphorous standards many times higher for Bone Valley rivers, even higher than for other Florida phosphate mining areas. This discrepancy, that somehow phosphate in the Peace and other Bone Valley rivers must be accepted, while tighter standards can be accepted in other mining areas, is never explained. (0.30 mg/L in the North Central region, which also has phosphate mining, versus 0.49 mg/L in the CFPD. See 3-92).

The background section of the DAEIS recognizes that there is a "likely need to lower nitrogen and phosphorus loading to upstream watersheds," 3-92. It goes on to recognize that the proposed 0.49 mg/L standard is "over twice the concentration targeted for protecting Charlotte Harbor." 3-93. The nitrogen standards are also twice as high as they need to be to protect the harbor, id., but the Consequences section says nothing about the issue except to speculate that FDEP and SWFWMD will have to step up their efforts in the future. 4-239.

We understand that water quality management has also been a problem in connection with the closure of gypstacks, with resulting releases causing very high levels of downstream orthophosphate. See Exs 8 and 20, comments of Ralph Montgomery.

Additionally, as discussed in our Scoping comments, April 20, 2011, and the Angelo letter of April 19, 2011, phosphate companies have successfully sought variances from water quality standards for dissolved oxygen for their former mine pits/lakes because the pits are too deep to support compliance with dissolved oxygen standards. The solution proposed by CF to this problem is that the fish would learn to breathe at the surface.

Bottom line, it is clear that phosphate and nitrogen levels in the Peace are too high, and DO levels in mining lakes are too low, but the DAEIS never addresses the issue.

**-The background discussion reveals loss of fish species and habitat in the Peace watershed but the Consequences discussion ignores the issue-**The background discussion at 3-102 to 103 identifies studies showing decline of fish species and attributing the decline to changes including loss of first and second order streams, eutrophication of lakes, loss of baseflow to streams, spread of exotics, and decreases in surface flow. The comments of Thomas Fraser, above, and Ex. 12, confirm this potential impact. All of these changes are likely results of mining, yet the Consequences section, again, declines to address the problem.

**-The water quality discussion at 4-111 reports the NPDES discharge data on a 5 year average basis and assumes that is an adequate discussion of water quality impacts. It is not.-** Water quality standards are never written in terms of 5 year averages, which, by definition, will obscure and hide the exceedances which actually affect water quality. Acute and even chronic violations can be totally hidden by 5 year averages. The Thirty Mile Creek data discussed above is a vivid example of the insufficiency of relying on long term averages.

**-The parameters monitored at NPDES outfalls are very limited and do not begin to address the universe of water quality risks-** Depending on the loadings allowed in a permit, a discharge may cause water quality violations even if it is in compliance with discharge standards. Any regulator or consultant knows this. The failure to acknowledge it in the DAEIS is indefensible.

Moreover, the NPDES discharge limits mentioned do not consider the numerous chemicals used in the beneficiation process, which may include hydrocarbons, including fatty acids, amines, fuel oil and others. In fact, nowhere in the AEIS are these chemicals even identified. At 4-198 the DAEIS congratulates the industry for discharging less of these mystery chemicals, which it still does not name. This is a serious and highly questionable omission. Any forthright consideration of the problem would identify the chemicals and test for them in the discharges AND IN THE GROUNDWATER SURROUNDING THE MINES, since the ThirtyMile Creek reports show that pollution does not necessarily leave the mine in a monitored discharge.

At 4-118 the DAEIS recognizes that beneficiation reagents may be an issue in CSAs, though again it does not name them. In fact at 4-167 to 168, it pretends that there are few wastes from mining, entirely ignoring reagent chemicals. It notes that monitoring wells have been required at some CSAs and provides data for a CSA at South Pasture. But, again, none of the parameters measured there are related to the reagent chemicals used (though pH problems were shown).

The USEPA's Superfund report on the Tenoroc mining site lists the beneficiation chemicals used as alkali (sodium hydroxide), tall oil (a mixture of rosin acids and fatty acids), No. 5 fuel oil, kerosene, amine and sulfuric acid. Ex. 21, at 7. It specifically cites mine and processing plant problems as "contamination of surface water and groundwater by fluorides, acids, heavy metals, and radionuclides." Id. It concluded that inorganic elements and radionuclides are concentrated through the beneficiation process and then "released back into the environment in the tailings and clay pond sediments." Id. at 18. Radionuclides and a significant list of inorganics were found at elevated levels. The report indicated concern for the groundwater exposure pathway and the surface water exposure pathway which was of

primary concern. Id. at 52. There are numerous Superfund sites associated with formerly mined lands in Florida. Ex. 22. This report information has been provided to the Corps. The authorities know there are problems, but they simply decline to address them.

The apparent reason for this head in the sand attitude by the regulators is found in the DAEIS at 3-100, and the Corps and its consultant seem almost embarrassed by the record. They cite a **1983** decision by FDEP, **in negotiation with the Florida Phosphate Council,** to require each mining company to take **ONE** sample of tailings water to analyze for the fuels and flotation agents used in beneficiation. The quotation in the DAEIS is from the 1983 document and is printed in its original type, apparently the Corps and its consultant don't even want to be responsible for retyping this ludicrous substitute for real analysis. Yet the DAEIS cites this 1983 deal as the reason for FDEP's "typically not requiring routine groundwater monitoring at phosphate mines." Id. Notably, the DAEIS states that FDEP also only requires compliance with groundwater standards at the border of phosphate mines, 3-101, with the result that, as discussed above, most of the groundwater in the CFPD will simply be abandoned to the mining companies. Unfortunately the Corps never discusses these issues in its Consequences section.

Ignoring all of this data, the DAEIS generally concludes that water quality is probably not a problem, and if it is, it will be diluted because discharges will occur during times of rain. 4-120 (referring to use by the City of North Port of Big Slough as a raw water source for its potable water supply). If CSAs are redesigned they may present less risk. 4-122. This is not an impact analysis so much as a fingers crossed hope that things won't be any worse than they have been in the past because violations will usually end up being diluted. It is meaningless in light of the failure to even discuss or consider existing data showing real problems, such as the Kingsford/ThirtyMile Creek data.

Very significant amounts of chemicals are also released at the fertilizer plants. The Federally mandated TRI or Toxics Release Inventory provides quantities of toxic chemicals released as reported by the companies. The most recent TRI numbers for Mosaic and CF are found in Ex. 23. The contaminants are worrisome (zinc, vanadium polycyclic aromatics, mercury, lead, ammonia sulfuric acid, and hydrogen fluoride) and the numbers are huge. Mosaic alone released 2,780,028 pounds of toxics in 2010 (after 1,771,488 in 2008, an increase of over 50%). It is highly improper for the AEIS to act as if this TRI data does not exist and to discuss water quality without taking it into account.

None of these serious impacts and potential impacts are discussed or even acknowledged in the DAEIS.

**-The water quality discussion also fails to consider the impact of spills on water quality.** There is extensive evidence that the phosphate industry is subject to spills from its clay settling areas and from its gypstacks and that those spills have had devastating consequences for the business and environment of Florida. A list of known spills was provided to the Corps in connection with the DAEIS. FIPR admits to some significant spills on its website. Water Quality, fipr.state.fl.us/Phosphate Primer. They include a spill into the Alafia in 1997 and two spills in 2004 from heavy rains. In addition to the listed spills, we know, and the Corps knows, that there were in fact intentional spill releases in 2004 at several gypstacks due to heavy rains. These releases were conducted pursuant to Consent

Orders issued by the FDEP because the gypstack wastewater management systems couldn't respond to the load. See our April 20 and April 25, 2011, Scoping Comments and Angelo April 19, 2011 submittal. See also Ex.25 (USEPA listing and studies of mining and mineral spill events).

Just at the beginning of July it was reported that the phosphate facility owned by PCS Phosphates in White Springs had spilled as a result of Tropical Storm Debby, confirming that spills are a very current problem. See Ex. 26.

The continuing drama of spills and threatened spills at Piney Point is referenced in Exhibit 27. In 2011 there was a spill of some 170 million gallons from Piney Point into Bishop Harbor (after earlier spills and responses described in our previous filings). In the most recent Piney Point developments the state sold the property to HRK Holdings to use the side for dredging spoils from the Port of Manatee. As HRK was facing bankruptcy, the state then waived the requirement that a protective dirt cover be installed on top of the site liner. The liner tore, eventually spilling 2700 gallons per minute of contaminated water ditches leading to Bishop Harbor and Tampa Bay, and leaving dredging residues. It was claimed that the state was aware of the torn liner. Just this week it was reported that another Piney Point spill may be imminent, with the state telling HRK that it must reduce water inputs at the site by 153 gallons per minute to avoid exceeding capacity by October 1. That was before Tropical Storm Debby. The so-called financial assurance requirements for managing the problem are essentially unsecured.

Acknowledging the importance of spill events, the SWFMWD MegaWUP proposed for Mosaic combines all Mosaic water permits into one (for mining and processing) and is based on the use of MORE water at its chemical plants during extra heavy rainfall years. This additional water is needed, according to Mosaic, to blend with polluted chemical-process water that must be discharged when storage ponds get full. Exhibit 6. In fact the proposed MegaWUP provides for average water use by Mosaic for chemical processing of 25 MGD and peak month use of 31.25 MGD. Exhibit 7. Of course, dilution of this effluent does not reduce the total pollutant loading of these discharges.

Ralph Montgomery in his comments to SWFWMD, and in his presentation to the USEPA's State of the Science conference on phosphate mining, also notes the problem of discharges from gypstacks during the closure period, when water management becomes a challenge leading to very high levels of orthophosphate discharge. See Exs 8 and 20.

The DAEIS may be setting up an argument that new CSA standards will prevent spills, therefore they need not be considered. But the history described at 3-153 to 154 disproves this approach. The draft acknowledges spills prior to the massive failure in 1971, and then describes a new spill design. No spills occurred for another 22 years, until two significant spills in 1994. At that point yet an additional new design was created in 1999. It has been 12 years since the new design. Based on the prior history of new design, and failure, one would think the authorities would not tout the success of the new design for at least 22 years, and hopefully more, since the most recent redesign.

The environmental impact of these spills, both intentional and not, from CSAs and gypstacks, has been inadequately studied but we know that it has been severe. The 1971 spill to the

Peace River resulted in the river running gray with CSA wastewater all the way down to Charlotte Harbor. Extensive fish kills were reported. 3-153. The effort to manage the wastewater from the abandoned Mulberry Phosphate gypstacks resulted in spills of process water to the Alafia River, threats to the valuable Bishop Harbor estuary and the dumping of barge loads of contaminated wastewater at sea. Many fishermen attribute the dead zone west of Tampa Bay to this dumping. Costs to close these abandoned stacks exceed $200 million, taken from the trust fund intended to reclaim formerly mined lands.

A fishing website contains the following description of the effects of the 1997 Alafia spill http://www.wmi.org/bassfish/bassboard/places_to_fish/message.html?message_id=231825:

> On 12-7-97 one of the phosphate companies spilled 50,000 gallons of acid which ran into the Alafia River (that runs into Tampa Bay). I have fished that river for over twenty years ( I live across the street from it). The spill killed everything in the river. It was so bad that the microscopic worms that live under the bottom died,. There was absolutely no life of any kind left in the river. I have been catching bass ( to 10 lbs), Snook (to 20 lbs), Redfish (to 10 lbs) and all sorts of freshwater panfish in that river for years. NO MORE !!! THEY KILLED IT GRAVEYARD DEAD !!! Some saltwater fish have started to move back in, but it'll be ten years before the river is close to what it used to be (that is if there's not another spill between now and then). The company that had the spill still hasn't been fined ! They are arguing with the State as to how many fish died. (Our government at work ! ).

In 2010 fishermen were allowed to sue Mosaic, then Cargill, for this same spill. The Florida Supreme Court said the company had a duty to protect the interests of commercial fishermen in the river, holding that Mosaic's business involved the storage of pollutants and hazardous contaminants and "It was foreseeable that, were these materials released into the public waters, they would cause damage to marine and plant life as well as to human activity." See Ex. 28.

The DAEIS pretends that CSA spills need not be considered, because, after several spills and two iterations of design improvements (there was another spill after the first), the industry may have finally designed better CSAs. 3-153-154. But it is clear that CSA spills are an industry problem, and have devastating consequences when they occur, no matter how frequently or infrequently. This is the reason that USEPA and international organizations study them, no matter where they occur or what kind of dam is involved, to try to prevent another. See Ex. 25. The problem is the failure of the impoundment, not what is inside it or what is spilled.

For the same reason, failing to consider gypstack spills by defining gypstacks out of the study is simply irresponsible. Gypstacks spill, a lot. In fact the Supreme Court says that gypstack problems are foreseeable. The failure of the DAEIS to acknowledge these issues and problems is breathtaking, and highly improper. The fisherman says "THEY KILLED IT GRAVEYARD DEAD!!!" The DAEIS must take notice.

**N. Exclusion of Chemical Plants and Gypstacks is Improper.**

**-Objection to exclusion of chemical plants and gypstacks from the analysis-** The DAEIS entirely fails to discuss chemical plants and gypstacks, apparently on the grounds that they involve a process subsequent to mining-the conversion of the mined product to fertilizer. See e.g. 4-168. This also is clearly improper.

The CEQ regulations require that an EIS include all proposals which are related closely enough to be, in effect, a single action, either geographically, because they occur in the same general area or generically because they include common timing, impacts and subject matter. 40 CFR 1502.4. An EIS must include direct, indirect and cumulative impacts. Direct impacts are those occurring at the same time or place, indirect impacts are later in time or farther removed in distance but are still reasonably foreseeable. The scope of indirect impacts is so broad that it may include growth inducing effects and impacts related to induced changes in land use, population density or growth rate. Cumulative impacts exist when the incremental impacts of the action, when added to past, present and reasonably foreseeable future impacts, regardless of what person or agency takes those actions, are subject to the EIS. 40 CFR 1508.

In the case of gypstacks, no imagination is required to understand their intimate connection to mining, their immediate geographical relationship ( they are located throughout mining country with impacts frequently inseparable from mining and beneficiation impacts-see discussion of Kingsford Complex/ThirtyMile Creek TMDL above), their treatment of the same phosphate that is removed from the mine itself and their horrific environmental and socioeconomic impact. The USGS 2010 MineralsYearbook, the government authority tracking the minerals industry, notes specifically that, **"All phosphate rock mining companies are vertically integrated, having one or more fertilizer plants, usually located near the mine."** Ex.29 at 56.2 (emphasis supplied). In fact most of the USGS data on production and sales is stated in terms of fertilizer production and sales. There are NO sales of phosphate rock alone in the US, only sales of fertilizer and processed phosphoric acid by the mining companies. Chemical plants and their gypstacks are an integral part of mining.

Basic chemistry must be recognized here as well. Phosphate rock is not soluble and can't be taken up by plants. 4-168. The phosphate rock, before processing, is useless. It must be processed to serve its function. No mine would exist were it not for the next step of chemical processing to make an actual product.

Mosaic, for example, touts its vertical integration (meaning its processing plant and gypstacks) as one of the reasons it is one of the lowest cost producers in the world. ICIS Chemical Business Magazine, www.icis.com/v2/companies/9146075/mosaic/financial.html, previously provided with the Angelo April 19, 2011 letter.

As noted above, SWFWMD also views all of the mining and processing operations as connected. The proposed MegaWUP for Mosaic combines all Mosaic water permits, for mining and processing, into a single permit. Ex. 7.

The state also treats the mines, the beneficiation plants and the chemical plants and gypstacks as a single operation. Gypstacks are built on the formerly mined land, 4-168, in fact they are considered to be a reclamation of that land for industrial use. When the horrific

gypstack spill occurred at Piney Point, the state took the money collected from the mining companies as severance taxes, and intended for reclamation of unreclaimed pre-1975 mined sites and **spent it on the emergency response for the gypstack,** with the full cooperation and assent of the industry and all regulators. No one gave a second thought to the argument that gypstacks and mines were separate and mine money shouldn't be spent on gypstacks.

The Ralph Montgomery comments, provided at Ex. 8, similarly point out that the gypstacks will grow as the mines being addressed by the DAEIS proceed, and closure of the gypstacks will lead to difficult downstream water quality impacts as the water removed from the gypstack is discharged. He cites already known orthophosphate problems from current gypstack closures.

The Corps' own staff briefing materials on mining address gypstack issues, both the location of stacks and the volume of phosphogypsum disposed and its rate of generation. Ex. 30. The Corps' initial website maps for this AEIS showed the location of the existing gypstacks, demonstrating the Corps' recognition of their importance for the AEIS. It would be ludicrous to pretend that the Corps should consider, as the regulations say it must, the population and land use changes due to mine permitting, but exclude the extremely dirty, noncompliant and risky process by which the mined materials are processed and their wastes left in large aboveground hazardous waste dumps, forever. One must be concerned that the Corps originally intended to include gypstacks in the AEIS until it received the instructions from Mosaic, discussed below at Section U and found at Exhibit 41, which stated that gypstacks should be excluded from the AEIS. **Exclusion of processing plants and gypstacks from any consideration of US phosphate mining is the creation of a myth with no connection to reality.**

Inclusion of processing plants and gypstacks is eye-opening. The ongoing production of gypstack waste associated with further mining is enormous. To make 1 pound of commercial fertilizer the phosphate industry creates 5 pounds of phosphogypsum slurry to be disposed in gypstacks. USEPA estimates that 32 million tons of new gypsum waste is created per year in Central Florida alone. USEPA further estimates that the current stockpile of waste in Central Florida gypstacks is nearly 1 billion metric tons. See also 4-168. Gypstacks in the CFPD range from 300 to 700 acres in size and may be as high as 220 feet. The surface includes areas of "loose dry materials." Active gypstacks in the CFPD cover 3200 acres. 4-169. There are 25 in Florida; 22 in Central Florida. Gypstack waste is radioactive and presents incredibly difficult management issues because of the large quantity of heated acidic wastewater produced in the stack system. See e.g. "Florida's Phosphate Wastewater Challenges," Onsite Water Treatment (Nov. 17, 2009). See April 19, 2011 Angelo letter.

The fertilizer processing plant operations themselves are also significant, and previous filings have demonstrated that USEPA considers them to be in violation of the hazardous waste rules of the Resource Conservation and Recovery Act (RCRA). See November 13, 2009 letter and Ex. A to that letter, found in Angelo transmittal of April 19, 2010.

Fertilizer plant processing uses large amounts of ammonia, with significant nitrogen discharges. Nitrogen as well as phosphorus contributes to the nutrient problem in Florida's rivers, which in turn contributes to downstream estuarine impacts. The DAEIS recognizes the

need to lower nitrogen and phosphorus loadings to protect the estuaries, 3-92. Exclusion of chemical plants and gypstacks simply conceals this problem.

The commenting groups have supplied the Corps with extensive material on gypstack issues in connection with the South Fort Meade extension permit. See e.g. November 13, 2009 letter and Exs. A. H, I, J, K, and March 19, 20010 letter and Exs. H, K, L, both in Angelo letter April 19, 2011. This material makes clear that gypstacks dwarf the actual mined product in volume, that they present an insoluble permanent disposal problem, that they are considered hazardous substances due to radioactive and other substances, that the fertilizer plants which produce them have serious USEPA permit and violation problems (providing another point of Federal agency action), and that it is clear that the financial assurances required by the state are nowhere near sufficient to deal with the potential costs of gypstack closure or response to spill incidents.

So what kinds of questions should have been considered regarding gypstacks? We understand Mosaic contends that no more fertilizer plants and/or gypstacks will be constructed. This means future production will go to expanding existing plants and stacks. Which plants and stacks are they? Are those plants and stacks properly permitted? What volumes of waste are anticipated? Is modification, upgrading or expansion necessary? Will any modification or expansion of older plants or stacks meet all current standards for windstorms and the like, and what bonds will be in place to insure proper handling? Will Clean Air Act new source permits be obtained for such modification, upgrading or expansion? What consequences and discharges can be anticipated on closure of the existing gypstacks. The Ralph Montgomery comments, Ex. 8,and the evidence of gypstack spills, show that gypstack discharges, including during closure, create serious problems.

The comments cited above demonstrate that gypstacks have had very serious ongoing problems with water management (the state simply provides consent orders to allow discharge of wastewater when the system became overloaded). The AEIS should provide calculations, based on real life weather variations, showing the ability to manage the water associated with gypstack systems under all circumstances.

## O. Radiation and Air Emissions Associated with Mining Present Serious Public Health Concerns.

**-There is no discussion of the serious public health impact from radiation as a result of the mining and processing activities**-Radium 226 and uranium are natural constituents of the phosphate matrix. In the natural state however, these constituents are diluted by the matrix itself and covered by 50 feet or so of other materials, sheltering the public from the effects of that radiation.

When the overburden is removed the matrix with its radioactive constituents is exposed. When that material is processed the radioactive constituents are concentrated in the process waste, the sand and clay from the beneficiation plant and the process water and waste gypsum from the fertilizer plants. When that material is disposed, in clay settling areas, back at the mine site in the mine cuts, or in gypstacks, the public can be exposed to that now concentrated radioactive material. Clay at a CSA may have 20 times the radiation of the

average Florida soil. Radioactivity and Phosphatic Clay Ponds, fipr.state.fl.us/Phosphate Primer. Ex. 24. The uranium and radium 226 convert to radon gas which is readily released and is a known health hazard. In the lungs it decays to other radioactive elements, so-called radon daughters, which present serious health risks.

USGS reconnaissance sampling in 1988-1990, showed gross alpha activity higher in mined than unmined basins, with gross alpha as high as 10.2 pCi/L (compared to 3.54 pCI/L in unmined basins). This was dismissed in the DAEIS as less than the Florida water quality standard of 15.0 pCI/L, 3-89, though clearly a one time test showing levels that much higher, and closer to the standard, in mined basins deserves further consideration. Other data at 4-107 shows 5 year average gross alpha levels at South Pasture as high as 12.27 pCi/L. It is pretty clear that if a **5 year** average shows levels close to the standard, there necessarily were numerous instances of violation of that standard. The draft confirms this in noting the high variability in the samples taken. 4-111.

In addition to the obvious point that gypstacks from phosphate processing are considered hazardous by USEPA because of their radioactivity, health studies done within phosphate processing plants, and even within the central Florida phosphate area, have shown increased lung cancer risks. These studies have been provided to the Corps in our letter dated April 20, 2011, at p. 17 and Ex. J. At the request of the Florida Governor, USEPA issued recommendations in connection with Florida phosphate lands, calling specifically for precautions in light of the increased radioactivity and lung cancer risk in particular. 44 FR 38664 (July 2, 1979). Ex. 31. See also 41 FR 26066 (June 24, 1976), Ex. 32. The Florida Department of Health publishes maps identifying areas of increased radon risk. These frequently coincide with formerly mined lands. Polk County, for example, is covered with them. Ex. 33. Past EIS studies of phosphate mines have included radiation, as the DAEIS acknowledges. See 1-27 to 1-28. The DAEIS recognizes that urban development has occurred on former mined phosphate lands and is expected to continue in the future. 4-182. Current residents, and those that might be affected in the future, deserve an analysis of the radiation issue.

USEPA's recommendation specifically mentions that "future residential development on phosphate lands is likely to result in a public health hazard unless appropriate land reclamation and preparation, as well as home siting and design requirements, are imposed." 44 FR 38665. The use of clean fill is specifically mentioned. Id. The DAEIS must recognize this issue and address possible mitigation and remediation measures, such as required use of layers of clean fill on top of problematic areas. This goes beyond current mining reclamation practice in which permits don't address radiation risks and even allow exceptions to topsoil requirements when it is not feasible.

The industry in the past has advanced numerous arguments that there is some kind of debate among the authorities about the standard which should be applied to radiation, state or federal. That argument is repeated in the AEIS, 3-152 to 153, but it is simply wrong. The industry and the Corps well know that under CERCLA the standard is "applicable or relevant and appropriate" requirement (ARAR), which means the federal or state standard, **whichever is more stringent.** They also know that the USEPA's standard is 4 picocuries per liter of air (pCi/L), which may be frequently exceeded by phosphate mined lands. They further know that, despite its soothing assurances about comparisons to the radiation we get from xrays or

plane flights, the Department of Energy enforces a standard called ALARA, As Low As Reasonably Achievable, because there is no lower level "safe" limit for radioactivity. As a federal agency the Corps may not ignore the federal standards for radiation.

USEPA aerial surveys of phosphate lands, in particular the former Coronet Industries site, have shown radiation levels from 20 to 40 picocuries per gram of soil. By comparison, natural soils in the region have less than 2 picocuries per gram. Ex. 34. The Environmental Groups are aware that this issue has become highly political, with politicians seeking to bar the USEPA from further aerial surveys of phosphate lands to identify radiation issues, citing the negative impact on tourism, development and the phosphate industry. See e.g. Ex. 35. It is clear, however, that political sensitivity does not change NEPA requirements and that aerial surveys are in fact well-correlated with ground measurements. Id.

Despite a great deal of evidence that radiation is a known phosphate health risk, at the former mines, the CSAs, the beneficiation plants, the chemical plants and gypstacks, the DAEIS unaccountably fails to even discuss the issue of radioactivity as an impact. This is manifestly improper and a violation of NEPA and its regulations. Beyond that, the unwillingness of the Corps to address a clear public health risk is irresponsible.

**-The AEIS fails to consider the impacts of air emissions from mining and processing-** Dust caused by widespread strip mining operations is a serious problem from mining that is not addressed by the AEIS. Exhibit 36 provides several pictures of dust at mine sites. Yet the DAEIS discussion does not mention dust at all. See 4-165. Fugitive dust is not just an annoyance, though it is that; it presents health risks which are recognized by the many states with fugitive dust regulations, and it presents significant costs and maintenance problems for homes and businesses. Ex. 37.

Beyond the annoyance of the dust itself, the public health studies previously provided in our letter of April 20, 2011 addressing phosphate processing plants and the Tampa Bay area in general have shown elevated levels of lung cancer. This raises significant public health concerns for the impact of the fugitive dusts raised by phosphate mining and processing. In processing plants "dust can be an irritant and can contain naturally radioactive particles, so workers in dusty areas wear dust masks." Air Quality, FIPR Phosphate Primer, fipr.state.fl.us/Phosphate Primer. Ex. 24. Such dusts will also contain fluorides, id., so human or animal exposure is undesirable for many reasons, yet there is no discussion in the AEIS of these impacts.

## P. The DAEIS Fails to Consider the Economic Value of the Resources Lost to Phosphate Mining or the Costs to the Public of Mining

**-The economic analysis entirely fails to consider the economic value of the natural resources taken or placed at risk by the mining proposals-**The Environmental groups have supplied the Corps and its contractor with extensive evidence of the economic value of the natural resources Charlotte Harbor watershed and have urged the drafters to include this issue in their analysis. The Corps and drafters have also worked with the CHNEP, which has studied these issues extensively. Despite this, the DAEIS does not consider the value of these resources, the risk of their damage from loss of water flows, spills or chronic water quality impacts.

A 1998 CHNEP report, previously sent to the Corps, provided an estimate of economic value of the resources of the CHNEP watershed. In November of 2011 Jim Beever of the Southwest Florida Regional Planning Council adjusted the 1998 values to 2010 dollars. For the study area the direct and indirect income attributable to natural resources was:

Tourism and Recreation $3.08 Billion
Commercial and Recreational Fishing $182 Million
Agriculture $940 Million
Mining $378.4 Million

The incremental value of real estate associated with bay front, ocean front and riverfront property was NOT included, but obviously would substantially increase these values. Note that Mining is only slightly over 10% of the total, yet the value of the natural resources of the area for purposes other than mining was entirely omitted from the draft AEIS.

Another way of looking at the economic value of the natural resources of the area is provided by a 2011 study prepared for the Everglades Foundation, "The Economic Impact of Recreational Tarpon Fishing in the Caloosahatchee River and Charlotte Harbor Region of Florida," Ex. 38. That study surveyed the licensed saltwater anglers actually resident in Charlotte, Collier, Lee and Sarasota Counties about their days of tarpon fishing and their expenditures and then considered indirect economic impacts as well from those expenditures. The yearly total was over $108 million, including over $33 million in local salaries, wages and business owner income and over 1000 full time jobs. This number understates the totals because it doesn't include the many nonresident tourists attracted to the area by the tarpon resource, but it demonstrates the extraordinary value of the natural resource of Charlotte Harbor in just one isolated area, tarpon fishing. Other sources are available which provide well-researched values for Florida's natural resources, sometimes called "ecosystem services."

With these examples, the failure of the DAEIS so-called "economic analysis" to consider anything other than phosphate income and expenditures is laughable.

**-The economic analysis also ignores some substantial additional costs of mining.-**The discussion above notes some of the economic costs to the public already caused by mining. Extensive aquifer pumping, by mining and others, and the lowering of the Floridan Aquifer, leading to damaging saltwater intrusion, have led SWFWMD to create the Southern Water Use Caution Area or SWUCA. Within the SWUCA, residents and other users are required to limit their water use. Use of the aquifer resource by mining has directly impacted hundreds of thousands of residents. This cost is ignored by the DAEIS.

The comments of Ralph Montgomery, provided as Ex.8, specifically note the failure of the DAEIS to address water impacts cumulatively and the fallacy of using only annual average data which hide the significance of seasonal low flows. Addressing the issue from the standpoint of public water supplies (the comments were prepared for the Peace River Manasota Public Water Authority), Montgomery notes the possible need to obtain additional storage capacity or additional water sources if the failure to consider low flow circumstances means that the Authority will not be able to withdraw water from the Peace or if reduced flows

in the Big Slough means that the Authority will have to make up the difference. These very substantial costs have not been considered by the DAEIS.

The DAEIS discussion of the value of mining includes severance taxes. Those taxes were supposed to go to a fund for reclamation of pre 1975 mined lands. Instead they had to be used by the state to respond to the disastrous gypstack spill at Piney Point, an issue which is not yet resolved. It is entirely improper to consider these severance taxes as a benefit of mining. Rather they constitute a cost to the public for the damages due to mining.

Similarly, our previous submissions have provided an analysis of serious shortfalls in the bonding provided for gypstack closure. As revealed at Piney Point, where industry funds fall short the public must pay the bills. These costs are also ignored by the DAEIS.

The DAEIS makes some other insupportable claims for the benefits of mining, e.g. that the mining companies provide wildlife networks at no cost to the public, 4-203, or that the companies contribute to local conservation through ad valorem taxes, 4-204. Everyone pays ad valorem taxes and presumably the mining companies benefit, like the general public, from this effort. Mitigation efforts are required by law in replacement for wetlands destroyed. Where they lead to wildlife networks, or other conservation properties, they are very rough, and insufficient, compensation for wetlands losses due to the mining itself.

Further, it is clear that clay settling areas, in addition to their damage to groundwater and surface water systems, are likely permanently lost to productive use. USGS sources, discussed above, estimate CSA coverage at between 40-60% of the mine site. FIPR itself acknowledges that under the crust which eventually forms the clay "is still the consistency of pudding" with only about 25% solids, which limits the amount of weight it can support. FIPR is generally positive about all things phosphate, but even FIPR is at a loss when dealing with CSAs. It concludes, "uses are limited by the properties of the clay that leave the settling areas unstable." fipr.state.fl.us/Phosphate Primer. Ex. 24. Any economic analysis must recognize the permanent loss of value of CSAs.

The DAEIS further does not consider the lost opportunity cost which results from the dedication of such a large proportion of our ground and surface water to mining. This cost will grow larger as agriculture and population grows, as the DAEIS indicates it will, but the groundwater allocations are capped or even lowered, with the result that wastewater reuse, reservoirs, and costly conservation measures are required, or development is even impeded. It should also include the extensive damage caused by lowered water tables. Recently that damage has included sinkholes which develop when agriculture overpumps in order to protect crops in freezing weather. While agriculture is the immediate cause, the ultimate cause is the water table already reduced by phosphate pumping. The result has been substantial property losses and increased insurance costs.

A number of formerly mined sites are on the Superfund list in light of continuing contamination. One site, Tenoroc, has already been addressed, though it still presents some contamination issues). USEPA has sought to do overflights to identify radiation readings on former mined sites; these have been blocked in large measure for political reasons, but it is clear that the Superfund law (the Comprehensive Environmental Response Compensation and Liability Act or CERCLA) does apply to these sites and will eventually mandate cleanup.

These cleanup costs may have to be paid by the public, if private industry is no longer available. This cost is never considered by the DAEIS.

The DAEIS ignores the value of its natural resources to the future of the state. In "Mirage, Florida and the Vanishing Water of the Eastern U.S., Cynthia Barnett quotes former governor Reubin (sp) Askew as saying, "Ecological destruction in Florida is nothing less than economic suicide." Ex. 13, at 54. These issues belong in the AEIS.

**-The DAEIS purports to contain a study of the economic value of mining. It is improperly prepared and grossly inadequate.-** The DAEIS contains a study prepared by EcoNorthwest on behalf of Mosaic, using a model called IMPLAN, and pretends that this work constitutes an independent analysis of the economic value of mining. It is improperly prepared and entirely inadequate.

Exhibit 39 is a critical analysis of the EcoNorthwest/DAEIS work by Professor Richard Weisskoff of the Department of International Studies at the University of Miami. Professor Weisskoff's work was done on behalf of the Florida Chapter of the Sierra Club. Professor Weisskoff has done extensive work on the economic impact of environmental and mining projects in Florida, including a study for the Corps of the economic impact of Everglades Restoration. Some of his experience is outlined in Ex.39. He has previously prepared studies of the economic impacts of mining in Hardee and Desoto Counties which have been provided to the Corps.

The Sierra Club obtained the worksheets supporting the DAEIS economic modeling from the Corps and provided them to Professor Weiskoff. The Corps is referred to Exhibit 39 for a full discussion of Weisskoff's findings, but a brief summary is provided here:

-The DAEIS/EcoNorthwest approach uses the IMPLAN model (AEIS-IMPLAN) to assume the economy is essentially frozen throughout the period studied, not accounting for issues such as the increase in value of Hardee County agriculture, despite loss of acreage. Freezing the economy from 2012 to 2060 undervalues the dynamic sectors such as agriculture and favors capital-intensive sectors such as mining.

-Agriculture actually should increase in value over the period. AEIS-IMPLAN does not allow this. The USDA publishes Outlooks for all agricultural branches, and the US Census publishes county accounts in the Regional Economic Information System (REIS) and these should have been consulted, but weren't

The DAEIS then goes on to minimize or omit losses to the total farm sector, by pretending that reclaimed land is put back into the farm inventory. This is invalid because all of the land cannot be put back into inventory as it is used for CSAs, and lakes carved out of mined land. Estimates are that at least 25% of land is lost to agriculture. The DAEIS assumes 3.6%. This greatly underestimates the loss to agriculture from mining. The scenarios to be compared should be the difference between the GROWING agricultural economy without new mines and the losses from the removal of that growing activity compared to the claimed gains from the new mines.

-The DAEIS also substantially undervalues the agricultural sector by counting only part of it, leaving out "Services to Agriculture", which in fact is the largest single sector. **Properly computed the "Agriculture cluster," with services and the agriculture branches totals 3221 jobs, compared to the mining cluster's 211 jobs.**

-Agriculture is more valuable to the counties in other ways. Both workers and owners live in the counties and their income is recycled into local businesses. Mining profits, in contrast, are sent to the home office (in Minnesota) and reinvested elsewhere, such as the purchase of a new mine in Peru. Only 1/3 of the mining value added goes to labor, and, if the workers live in Hardee County or Desoto County, it is only this amount plus the county share of severance taxes stays in the county. With the loss of ag workers the old towns like Ft. Meade and Bowling Green have become ghost towns. This is possibly the future for Wauchula.

-Weisskoff's own economic studies using the Original IMPLAN data find that the Output multiplier for agricultural output is 1.254, compared to 1.176 for mining, meaning higher outputs for agriculture in direct, indirect and induced effects. (1.254 means that a $1000 investment for agriculture will result in $1254 of direct, indirect and induced effects. This is a 6.6% advantage for agriculture. But the employment advantage is even higher. The agricultural employment multiplier is 12.5 jobs per million dollars versus 4.60 jobs per million dollars: 73% higher for agriculture. While mining may create greater value in output and property value (profits), **agriculture creates both labor value (in agricultural services) and property value (profits) in farming, and many more jobs.**

-Weisskoff points out that the EcoNorthwest/DAEIS IMPLAN data for Hardee County does not provide its source data and is directly contradicted by a study done by Grace Johns in 2005 for the Hardee County Commissioners. The differences are significant, e.g. 694 jobs created according to the DAEIS IMPLAN for Ona mine versus 71 with a beneficiation plant and minus 11 jobs without one, according to Johns. The DAEIS values for different sectors are also very different from the Johns work in the past, the DAEIS value for mining being almost twice as high as the past studies, and the value of agriculture less than ½ as much. The DAEIS does not acknowledge the discrepancies, or provide reference to the sources used for its input, and it does not properly account for lost agricultural jobs, including losses associated with the potential yield of reclaimed land.

-Weisskoff also reviews the DAEIS data entry worksheets and finds significant discrepancies with his own and others prior work, with no explanation of the source of the DAEIS data entries, which must be considered unsupported. The DAEIS numbers are simply not credible.

-Weisskoff also notes that Regional Economic Modeling Inc (REMI) is the correct model to use in a growth situation, not IMPLAN, to account for the big picture in a macro-dynamic sense. The DAEIS analysis uses IMPLAN inappropriately by freezing present technologies and not taking into account the full cost of displacing the dynamic and growing agricultural sector and its linkages. The DAEIS overvalues the relatively short period of mining income; mining being an industry with very little local connectivity relative to the agricultural activities it displaces.

Weisskoff concludes that the DAEIS results use an inappropriate model, freezing the present technologies and not taking into account the full cost of displacing the valuable agricultural sector. The DAEIS results are simply not credible. He points out a number of areas in which they ignore accepted studies and fail to recognize the value of agriculture.

## Q. The DAEIS Fails to Consider Environmental Justice

The AEIS must discuss environmental justice, and the DAEIS has a section which purports to do that, but it ignores significant, and quite evident environmental justice issues.

At 4-151 and 153 the DAEIS identifies census tract 970300 as containing both a higher minority population and higher levels below the poverty rate. The map at 4-153 suggests that this tract is at R-2, in close proximity to Ona, Wingate East and the South Pasture Extension and smack dab in the middle of the mining area.

It appears the population of 970300 is likely farmworkers, 3-136, who will be displaced from their jobs from the mining expansion, as well as being affected at their homes. It is clear that there is little likelihood that the jobs which the DAEIS claims will be created by mining will benefit this population.

Other data in the DAEIS mirrors these concerns, on a larger scale. Chapter 3-127 shows the population breakdown for Hardee and Desoto Counties, in contrast to the other counties impacted. Hardee and Desoto have over 26% living under the poverty level, easily meeting the CEQ definition of over 20%. Desoto has 30% Hispanic, 13% Black or African American and almost 18% Other, for a total minority population of almost 44%. 3-132 to 133. Hardee County has 7% Black or African American, 43% Hispanic and 17% Other for a total minority population of 52%. Id. (Note that the graph at 3-133 appears to have a consistent error in that the percentages of white populations, added to the minority populations, are well over 100%).

Further, Hardee and Desoto are dominated by agricultural employment, 95 and 84% respectively. 3-136. We have previously provided studies demonstrating the economic impact of agriculture on Hardee and Desoto Counties and the consequences of loss of those agricultural jobs. While the loss to the economy as a whole is important, the particular loss to the farmworker population, with its substantial component of minority populations and populations below the poverty line, demonstrates that the proposal will have a disparate impact, violating environmental justice standards.

Finally, the Florida Institute for Neurological Research (FINR) is located in Hardee County. This institute, which cares for those with neurological disabilities, employs some 500 people and performs an extremely vital service. Management believes that mining nearby, with noise, dust, and disruption will be extremely damaging to its patients and has sued the mining company. Disruption of this disabled population also violates environmental justice standards.

## R. The DAEIS Fails to Contain a Public Interest Review

The Clean Water Act requires that a public interest review be conducted to support the issuance of a permit under section 404 of that Act. We understand that USEPA has urged the Corps to conduct a public interest review in the AEIS. Clearly that has not been done. Indeed, as discussed below, the bias shown in the document, and its domination by the mining companies, indicates that the public interest has been pushed to the background throughout the discussion.

A public interest review is also contemplated by the Corps' own Environmental Operating Principles (EOP) which call for its decisions to achieve environmental sustainability, seek balance and synergy among human development activities and natural systems, and accept responsibility for activities that impact human health and welfare and the continued viability of natural systems. The commitment contained in the EOPs should be a part of the DAEIS.

We believe a discussion of the public interest is required by NEPA and we urge that the DAEIS contain such a discussion.

**S. The DAEIS Fails to Consider Several Very Viable Alternatives and Mitigation Opportunities.**

**-The DAEIS improperly refuses to discuss importation of phosphate rock as an alternative-**The DAEIS gives substantial space to the value of phosphate and its importance for the world market but refuses to consider any alternative other than the mining of phosphate from the CFPD. This is manifestly improper. The world is full of phosphate. Refusing to consider any other source is a transparent effort to serve the interests of the permit applicant-not to conduct a proper EIS.

Professor Weisskoff also assembled data on the role of the Florida phosphate industry in the world market for phosphate and phosphate fertilizer. His report is attached as Ex. 39, Part 1. Analyzing data from the USGS and the International Fertilizer Association (IFA) Weisskoff finds that the US has 1.2% of the world phosphate rock reserves, but produced 14.9% of the world supply in 2010, falling from 25.3% in 2000.

Of course phosphate rock is only the first stage of the process, and the CFPD producers do not actually sell phosphate rock (no phosphate rock is exported), rather, with the addition of sulfuric acid to make phosphoric acid, and then ammonia, two major phosphate fertilizers, DAP and MAP are manufactured. The US has retained a dominant share of more-or-less one quarter of the world's supply of these products. In exports the US role is even more dominant: 31.7% of MAP (in nutrient content), 26.1% of DAP and 27.6% of combined MAP and DAP exports worldwide originate from the US. Only 9.1% of phosphoric acid is exported, it is instead retained in the US to be converted to fertilizer for export.

A number of fertilizer plants in Louisiana and Texas do import rock; beginning in 2010 and 2011 large scale imports started arriving from Morocco and from the newly-opened Peruvian mine jointly owned by Mosaic. By 2010 imports accounted on 11% of rock reserves, up from 5.8% in 2000.

This rock, that imported and that produced domestically is converted to fertilizer---FOR EXPORT. Almost half, 47.6% of the combined MAP-DAP nutrient tonnage produced in the

US was exported in 2011. When compared to the 1.2% of global reserves held in the US it is clear that we are shipping our valuable phosphate resource abroad. Weisskoff concludes:

"Thus, the Florida advantage is due to low cost and historical location, access to ocean transportation, cheap energy, negligible taxes, and minimal land reclamation costs, The real cost to Florida society is the loss of first class farm land, the accumulation of toxic waste, and the potential destruction of the water downstream supply."

The USGS assembles regular and comprehensive data on world and US sources of phosphate. Its 2010 Minerals Yearbook and its most recent yearly report for 2011 are attached as Ex 29. Major worldwide sources include Morocco and Peru, which supply phosphate to the US, including to Mosaic. The 2011 report lists many stable countries with existing and expanding phosphate production, including Morocco, Australia, Canada, Peru. In fact world production is projected to increase 20% from 2011 to 2015, with the largest increase from Morocco. The world is awash in phosphate.

The pretense that import of phosphate rock is not an available alternative is further belied by the fact that it is happening, and happening right now. The 2011 USGS report states that in 2011 "US imports of phosphate rock were estimated to have increased by nearly 1 million tons from those of 2010 because of imports of phosphate rock from Peru, where the leading U.S. phosphate fertilizer producer has a 35% stake in the only phosphate rock mine in that country." The Peruvian phosphate was used in part when Mosaic's South Fort Meade-Hardee County mine operations were halted by an injunction (for failure to prepare an EIS), but it is notable that Mosaic was able to use that imported material to keep operating, and make a nice profit. In fact three US fertilizer companies rely entirely on imported rock from Morocco. Id. Clearly operating with foreign phosphate is well within the contemplation of the phosphate companies. The refusal to consider this alternative is simply a reluctance to follow the mandates of NEPA.

Further, as Weisskoff and the USGS publications make clear, an unfortunate result of the Corps/mining company alliance to mine as much phosphate as possible no matter what the environmental consequences is that US phosphate producers, with less than1.9% of the world's reserves, are nevertheless supplying almost half of the world's phosphate fertilizers. We are shipping our valuable phosphate resources abroad. It is clear, once you look at the actual data, that the world does not need our phosphate, rather this depletion of our own supplies is being done entirely so that Mosaic and CF can make as much money as possible with these resources.

Clearly it is attractive financially to operate the fertilizer plants-as noted above, every mine has associated fertilizer plants, while fertilizer plants can readily be operated without the mine. We know from FIPR and the DAEIS itself that phosphate reserves in the southern part of the CFPD, the area for which permits are now sought, are deeper and of less desirable quantity and quality, with more contamination from dolomite. An alternative which calls for less mining but continued fertilizer production with some imported phosphate is clearly feasible and should have been explored.

Consideration of this alternative does not require extreme measures. Below we discuss the reasonable alternative of stepping back mining from rivers, streams and wetlands, thus

allowing mining to continue without the severe impacts experienced in the past. Any shortfall of phosphate to supply fertilizer production can readily be made up with imported phosphate. Other companies are doing exactly that. Failure to consider such a reasonable compromise is inconsistent with NEPA.

**-The DAEIS failed to consider transportation methods which would reduce the extraordinary water use of the phosphate mines**-Phosphate mining as practiced in Florida uses monstrous amounts of water. Mosaic has an overall permit for almost 70 MGD. Total usage is 85 MGD. While the DAEIS claims that these full amounts wouldn't necessarily be used except in drought years, in fact drought years are the very years when everyone else and the environment needs the water as well.

Florida phosphate mining uses so much water because the water is used as a transport medium to slurry the phosphate to the beneficiation plant and then to slurry the sand and clay back to the mine cuts. This is a very wasteful use of water. An important state resource is being provided, **free,** to the phosphate companies so that they don't have to pay for transportation. The AEIS comments that if phosphate mining were to phase out there would be great demand for the phosphate water allocation. This is an amazing admission. **Everyone else needs that water too.**

This wasteful use of water is not an inevitable result of phosphate mining. The USGS Yearbook, at 56.2, Ex. 29, notes that in Idaho and Utah, "phosphate rock was sent from the mine to the processing facility **via truck, rail,** and slurry pipelines." (emphasis supplied.) In an Australian mine beneficiation is by dry screening and then trucking for further processing. Yearbook at 56.3, Ex. 29. Morocco transports its phosphate by conveyor belt. "Phosphate: Morocco's White Gold", Bloomberg Businessweek, November 4, 2010, www.businessweek.com/print/magazine/content/10_46/b4203080895976.htm.

The DAEIS itself points out that other EIS documents in the past have discussed transportation alternatives. 1-27 to 1-28. Clearly transportation methods which reduce the extraordinary and extraordinarily damaging phosphate water use are available. Failure to consider them is a violation of NEPA.

**-The DAEIS fails to consider a reasonable buffer proposal-**At 4-154 et seq. the DAEIS purports to consider a proposal to provide for nonmining buffers around streams. But the buffers analyzed in the document are 1500, 3000 and 6000 feet, much larger than buffers applied or studied in the past. 4-154. The analysis indicates little if any mineable area left after application of the extreme buffers studied.

Ralph Montgomery commented on the buffer selection criteria, wondering why the DAEIS didn't select the "many instances of environmental buffers being applied in Florida with ranges from 1500 feet down rather than up." Ex. 8 at 17. He noted that, "A cynical observer might suggest that the unreasonably large buffers were selected to fail, rather than using a more reasonable approach based on existing buffer criteria used in other instances..." Id. He recommended that this section of the document be redone using reasonable buffer distances "given the amount and distribution of wetlands/streams/high value habitats on the proposed sites." Id. at 2.

Montgomery's seems like the obvious approach; yet it wasn't done. It appears that the computer set up to run the numbers for more reasonable buffers must exist. Failure to do so represents a failure to take a real look at buffers in the DAEIS. A reasonable buffer applied with provisions for avoidance of high quality habitat, 4-38, should have been considered.

**-The DAEIS recognizes the benefits provided in the past by buffer zones, withdrawal limitations and conservation acquisitions but never discusses these as mitigation measures.**-At 4-178 the DAEIS specifically notes that in the past factors that have minimized some of the potential impacts of mining have been conservation acquisitions, water withdrawal limitations and non-development zones such as buffers or setbacks. Despite this clear recognition of the value of these efforts, these mitigation strategies, aside from a very simplistic and overreaching discussion of stream buffers, discussed above, are not discussed in the DAEIS.

A powerful example of conservation acquisition, and buffers, is Mosaic's recent acquisition of the Peaceful Horse Ranch, a Florida Forever parcel bordering the Peace River and Horse Creeks, for use as a state park. See also 4-183 (Donations of Peace River Park and Hardee Lakes Park). Conservation easements and setbacks along the Peace will also be part of the South Fort Meade extension mine. This approach, targeted to areas of high quality habitat and ground and surface water protection, is much more useful than the geometric drawing of extreme stream setbacks which the DAEIS pretends to consider. See e.g. 4-154 et seq.

The DAEIS does provide the data for a useful approach to identification of the most desirable habitat for preservation at the proposed mines. See App. C. A very reasonable mitigation strategy might include a combination of range of buffers along with preservation areas in the most high value locations at a site. While we believe the data must exist for such an approach, it unfortunately is not addressed in the DAEIS. We encourage its inclusion in the final document.

Oddly the DAEIS assumes that conservation easements will be required in future, 4-205, without recognizing the need to consider them as part of the DAEIS mitigation. Unfortunately the mining companies' own permit applications show almost no land set aside for conservation. Compare 4-38 to 4-96, which shows that past preservation at mine sites has averaged 15% compared to much lower numbers in the proposed permits, only 6%, for example, at Desoto. The mining companies do not conserve land willingly, the issue must be addressed in the AEIS and conservation mitigation specifically called for. One must be concerned that the failure to discuss this issue is because Mosaic told the Corps not to, see discussion at Section U, below.

**-The evaluation of alternative locations for mining within the CFPD reveals that the process is a charade**-The alternatives chosen for evaluation simply involve alternative sites for mines within the CFPD. Two of those so-called alternatives are in fact future Mosaic mines, not alternatives at all, just mines that are allegedly beyond the Corps' artificially imposed time line for the AEIS. Other alternatives involve taking every other available parcel of land within the CFPD, grouping them in polygons, and using elimination screens to determine whether any polygon is otherwise unavailable. Urban areas are eliminated as well as parcels too small for efficient mining. **Thus the assumption of the alternative analysis**

**is that the entire CFPD is to be abandoned to mining, unless someone can make a darn good argument that it should be saved.** This is antithetical to the AEIS process which is to consider alternatives to the environmental damage, not to outline places where more damage could be done in future.

The analysis reveals other flaws. The so-called alternatives are eliminated if they contain highly valuable environmental parcels. But there is no comparable point at which the four mines under evaluation can be eliminated for the same reason. Three of those mines directly impact Horse Creek, one of the few remaining undamaged tributaries of the Peace River and widely acknowledged to be an environmental gem. Despite the fact that this is an **environmental impact** statement, there is no point at which the drafters recognize, "holy cow, we're about to allow three mines along Horse Creek." Not only is there a failure to acknowledge these cumulative impacts, there is also no point at which the environmental significance of this stream as a whole is recognized and examined. The alternative review method chosen is a pretense, not a true examination of alternatives.

**-Permits should be limited in time and mitigation should be monitored.**-USEPA has urged that 404 permits issued by the Corps be limited in time (e.g. 5 years) so that corrections and adjustments can be made if needed. This concept is consistent with the Council of Environmental Quality (CEQ) mitigation guidelines which require that permits be reviewed, mitigation monitored and supplemental EISs prepared, if necessary, to respond to changes in circumstances. This alternative and mitigation strategy should be, but is not, addressed in the DAEIS.

Throughout the DAEIS the document makes very questionable assumptions about future events. One of the most obvious, and troubling, is the assumption that SWFWMD limitations on groundwater use will be enforced without change and will prevent any increases. This assumption underlies all of the groundwater discussion. There is also an assumption which permeates all discussions that wetlands restoration is effective, an assumption presented without evidence. Other assumptions are based on an actual, or pretended, lack of information, which the Corps declines to assemble, e.g. radiation exposure data for formerly mined sites, groundwater monitoring around CSAs, mines and processing plants, analyses of before and after mining impacts for Little Charlie Creek, and etc. If and when this information becomes available it could dramatically change the basis for the DAEIS analysis and permits and their terms may need review and reconsideration.

Shorter term or reviewable permits are urged by the agencies charged with protection of our natural resources and should be considered in the DAEIS. The DAEIS should require that the effectiveness of permit compliance and mitigation be monitored and supplemental EIS documentation prepared if assumptions are not borne out in practice.

**-The Corps' choice of CFPD and its Purpose and Need make true alternatives and mitigation impossible**-We have noted above that the definition of the CFPD is improper and that the purpose and need statement makes mining of almost the entire CFPD inevitable. Demonstrating the impropriety of this approach, there is no point at which the AEIS calculates the cumulative number of wetland acres and stream miles to be lost to mining and considers whether there is even enough capacity in the Peace, Myakka and related watersheds to make up that loss in mitigation. In addition to the failure to make a cumulative assessment,

**the AEIS has defined a study area and a purpose and need statement which make mitigation impossible.**

**-There are reasonable alternatives which should be considered**-It is unclear why the AEIS does not consider some very reasonable alternatives to the mine-everything scenario. The AEIS recognizes that the quality of phosphate in the future will be lower, and harder to get, and FIPR indicates it will be subject to undesirable constituents. Alternatives which call for reasonable setbacks from streams, preservation or conservation easements along significant streams and protecting valuable wetlands, aggressive and innovative methods to reduce water use and supplementation of any lost rock production with imported phosphate are achievable (as illustrated at South Fort Meade) and should be evaluated in the AEIS.

## T. The AEIS Process Has Led to Errors

**-The AEIS was compiled hastily and appears to be full of obvious errors. Additional time should be taken to prepare a product which is accurate and credible**-Work on the AEIS began after the scoping meetings in early 2011. The draft AEIS was made available May 21, 2012. This is an incredibly short time frame for a study of this magnitude and this complexity. Unfortunately the product shows that insufficient time was taken to do the job accurately.

The Corps has allowed only 60 days for the public to comment on a document of over 1000 pages, covering multiple disciplines. Of necessity our review is limited by the time we've had, but even within that short period we have found obvious discrepancies in areas that should have straightforward data and answers. The following are just some of the examples:

The dates of operation of mines, an extremely crucial issue for analysis of cumulative impact, differ from page to page. For example, compare 1-12 with1-16 to 1-17. Most troubling, the DAEIS discussion of the temporal scope of the AEIS study, found at 4-171, states that it ends in 2060 because that is the date that all mining and reclamation at all of the four studied mines is concluded. That statement, however, is directly contradicted by 1-17, which identifies Ona mining as 30 years, from 2020 to 2050, with 15 years of reclamation beyond that, ending in 2065, not 2060. And of course the Pioneer and Pine Level/Keys mines extend well beyond either 2060 or 2065. Pine Level/Keys mines till 2073, with 8 years of reclamation till 2081. Pioneer mines till 2085, with 8 years of reclamation till 2093. The apparently helpful time chart at 4-173 continues this reclamation period mistake as to Ona, and apparently the other mines as well if the timelines, which are not defined or explained, do not include reclamation periods.

The mines themselves, and the acreages of wetlands and streams to be destroyed by mining, differ from page to page as well. Compare 1-17 to 1-19 with 2-6 and 4-30. These are big differences-the total differences for the four mines alone involve over 2400 acres of wetlands and almost 200,000 linear feet of streams.

The AEIS draft makes significantly different assumptions for important issues such as the length of time reclamation will take-from 3 years in some places, to 10 years in others to 16 for yet another. Compare 4-22 (3 years) to 4-166 (5 years), to 4-96 (6 years), to 4-26 (8 years) to 4-63 (10 years) to 4-89 (16 years). An assumption of 3 years used in calculating

groundwater withdrawals and surface water capture can lead to grossly incorrect results if the actual time of impact is 16 years and leads to overlap with other mining.

Assumptions about CSA reclamation are also inconsistent: three years at 4-96, several decades at 4-166.

These are some obvious errors but they suggest that other underlying data may also be flawed.

As noted above, significant issues have simply been left out of the AEIS: Charlotte Harbor impacts, radiation, cumulative groundwater and surface water impacts, and gypstacks are simply ignored or excluded.

It appears that the AEIS was issued May 21, not because it was ready but because there was a need to meet the deadline set when it was announced. The reason for this accelerated schedule is unclear (unless it is a schedule demanded by the mining companies for their own purposes). The earliest mine covered by the AEIS does not begin operation till 2015. Yet despite what would appear to be plenty of time to prepare an effective and compliant AEIS, the process is being rushed.

This rush continues in permitting for the four mines themselves. Despite the fact that in some cases their applications are barebones, and despite the fact that the AEIS on which they must rely cannot become final until at least 2013, the Corps published notice of the applications requiring public comment be received by July 1, 2012, which would require public comment on these applications, without allowing the public to see the final EIS. This would be wholly illegal. The EIS is supposed to inform the public and inform the decisionmaking process. The public must have a right to see the AEIS before making comments, or the process is meaningless. We understand that the comment period has not been extended, but do not understand how the initial timing requirement could have been imposed.

**-Several submitted documents appear to be missing from the Corps files.-** We mention above the scoping comments of Brian Winchester which are apparently missing from the Corps AEIS files, even though timely submitted. We have supplied another copy with this letter.

Other documents which seem to be missing from the Corps files, even though submitted, are several documents submitted by Dennis Mader of 3PR, including:

The Ona Mine Staff Report (Draft) Hardee County Planning and Development (2003)
Land-Use Suitability Study/Hardee County/CFRPC (2002)
Non-Mechanical Dewatering of Florida Aquifers, Dr. Sydney Bacchus, Geologic Society of America (2006)

We request that these documents be included in your AEIS record. We will notify you as we find documents missing in the future.

## U. The AEIS Process Has Been Improper and is Apparently Biased.

**-Besides the inexplicable exclusions of important issues, discussed above, the AEIS process itself has been improper in its decision to avoid the collection of additional basic data.-** We have been told that the instructions given to CH2M Hill were to prepare the DAEIS using only currently available data. Unfortunately the Statement of Work for the efforts of the contractor confirms that understanding. 4.5 Task 5 of the SOW provides that CH2MHill is to rely on existing data, except for specific studies approved by the Corps, which must be performed through special authorization procedures. Ex. 40. We believe that instruction is highly improper. The applicable regulations specifically require that where there is incomplete information essential to a reasonable choice among alternatives, and the cost of obtaining it is "not exorbitant" the agency must include the information in the EIS. 40 CFR 1502.22.

In addition to the EIS requirements themselves, the Corps' Environmental Operating Principles or EOPs commit the Corps to "build and share an integrated scientific, economic and social knowledge base that supports a greater understanding of the environment and impacts of our work." The obligation to make sure appropriate data is collected is part of the central mission of the Corps.

In our scoping comments we identified several areas in which existing data is inadequate and further data gathering is necessary. They included:

-There should be an updated inventory of mined land and land to be mined. The present status of formerly mined land should be identified, its usage, including usage for residences, and condition. Maps of mined areas with all long term physical mining features such as CSAs, gypstacks, processing plants, mined lakes, etc., should be prepared. This inventory should include nonmandatory as well as mandatory lands.

-All mining permits should be inventoried and summarized, including NPDES permits, Clean Air Act permits, including new source permits, and COE and state mining permits and county approvals.

-All resources impacted by mining should also be listed, e.g. Charlotte Harbor is a federal Aquatic Resource of National Importance (ARNI); the Myakka and Little Manatee Rivers are Outstanding Florida Waters (OFW), the Peace, Myakka and other rivers and their tributaries are also important resources.

-A schedule of anticipated mining for each mine, with realistic periods for reclamation, should be created so that it is possible to identify all cumulative impacts for mines operating at the same time and the acreage involved. Groundwater withdrawal needs for each period for each mine should be cumulated. For example, we know that Altman, South Fort Meade and Ona are scheduled to operate concurrently. The impact of several mines operating concurrently could obviously present additional issues.

-In a previous filing requesting the preparation of an EIS for the South Fort Meade extension mine we have noted the number of variances and other exceptions allowed from mining permits and reclamation plans. These exceptions should be assembled to determine what

impacts they should have on permitting decisions, i.e. Corps mining decisions have historically cited and relied on state permitting and state regulations to determine that no further review is needed in certain areas, but it is not acceptable to rely on the protections allegedly available from state permitting decisions where the data shows that those permits will be readily amended or variances granted or exceptions made through a consent order process. The State of the Science Conference held by USEPA in connection with your scoping process included a presentation by Professor Lora Demers regarding the over 100 variances and waivers she had identified. A copy of that material should be incorporated in your AEIS record. See Demers' presentation included in Angelo April 19, 2011 transmittal.

-Note that the Council on Environmental Quality has issued important guidance on "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact." (January 14, 2011) (CEQ Mitigation Guidance), attached as Exhibit D. This guidance, which cites the COE rules, requires that mitigation measures must be monitored to insure their effectiveness and a further EIS performed if the measures are not effective. Effective monitoring and enforcement of state limitations relied on in the 404 permitting process must be considered by the COE in the AEIS for incorporation in permitting.

Additionally, our scoping comments called your attention to a study proposed by the USGS on Little Charlie Creek to determine the functioning of a creek system before mining. This very inexpensive study would also have provided a method for monitoring performance, as required by the CEQ. This very reasonable work was not performed.

The DAEIS notes that there is good flow data is missing for the Myakka because it has no gaging stations. 4-97. An obvious and necessary solution is to begin gaging on the Myakka so that that material becomes available. This is a program which will last for decades, yet the Corps is not taking obvious steps to provide accurate data about the results of the mining it proposes to approve.

We are also aware, and understand that the Corps is as well, that LIDAR data for all potential mining areas is available from SWFWMD. That data, as demonstrated in prior studies by the USGS, is invaluable for predicting the impact of mining on surface water flows, yet it was not used by the Corps, which apparently preferred to remain willfully ignorant of this important resource and its application. The USGS concluded in its studies, which were supplied to the Corps by Percy Angelo (though the Corps should have had them anyway), that the localized wetlands and streamlets around the larger streams and rivers play a crucial role in supporting flows in those streams and rivers.

Ralph Montgomery comments that it is regrettable that the Corps decided not to use the Peace River and Myakka River Integrated Surface Water and Groundwater Models developed by SWFWMD. Ex. 8, at 2. We understand other experts have asked the same question. The Integrated models already developed to address this area should be used.

There is a very real concern that the decision to limit collection of data is based on a desire to meet your obviously aggressive, perhaps otherwise unachievable deadline. Other unusual limits in the SOW, such as the limitation of site visits to 40 hours, additionally suggest that this is true. These artificial limits on data collection are clearly improper. Unfortunately, the

decision not even to use existing data and existing models raises the even more serious question of whether the Corps was concerned that they would demonstrate even more significant mining impacts.

**-The Corps Has Permitted Mosaic to Direct the AEIS Process.-** The record shows an April 25, 2011, comment letter from Mosaic with detailed instructions for preparation of the AEIS. The numerous AEIS deficiencies noted above are apparently the result, in many cases of the Mosaic instructions. This is highly improper. The Mosaic comments are attached as Ex 41. Several examples are as follows:

-Mosaic urged the preparation of a purpose and need statement very similar to that proposed by the draft AEIS. Mosaic further urged limitation of the AEIS to the specific projects proposed, not the areawide mining activity. See Mosaic comments at 3-4. This is exactly what the Corps did, despite the promise in its notice of intent to prepare that the EIS would be an areawide EIS. In fact the Corps announced, as instructed by Mosaic, that it would not be conducting a programmatic EIS, nothing that would allow it to consider the overall destruction caused by its mining decisions.

-Similarly, Mosaic instructed the Corps not to consider areawide alternatives, but to leave the alternatives discussed to specific permit alternatives, which in turn were to be dealt with in individual permits. It was incredibly blunt about this, "thus, the AEIS should not be structured to provide 'areawide' alternatives." Mosaic Comments at 4. Mosaic goes on to describe specific alternatives which the Corps was allowed to discuss, e.g. Ona and Desoto should not be considered alternatives for each other since Mosaic wanted them both. Any Corps discussion of alternatives, other than those proposed by Mosaic, must occur only in individual permits. Id. Later Mosaic tells the Corps not to draw conclusions about "good" or "bad" mitigation and reclamation practices. Id. at 11. The Corps then did exactly what Mosaic told it to do.

-Mosaic instructed the Corps to limit the cumulative impacts discussion, using the same approach as in the Hardee County South Fort Meade permit, even though that was a permit which was appealed and stayed by the USDC in Jacksonville. The Corps went even further than requested by Mosaic, its analysis essentially canceled out past horrific impacts from mining. It agreed to limit future impacts to those from the four involved permits, entirely disregarding other future mines or the continuing impacts of past mining.

-Mosaic then instructed the Corps to not discuss fertilizer plants and gypstacks, radiation, the lower reaches of the Peace or Myakka, the Charlotte Harbor estuary, or Tampa Bay. Ex. 41 at 7-8. It claimed that state and local regulation dealt with fertilizer plants and gypstacks and falsely claimed there would be no changes, even though it knows full well that gypstacks expand by 5 tons with each ton of fertilizer produced and even though the gypstacks regularly spill, an event which is not controlled or limited by state permitting. As for radiation, it pretends that radiation exposure for phosphate lands should not be considered because future use of those lands is not known, ignoring the fact that the state's only method for protecting the public from phosphate radiation lands is to warn them, via the internet, to stay away. See discussion above. It nevertheless instructed the Corps to reassure the public. The Corps obeyed.

-Mosaic instructed the Corps to "Maintain the Schedule" so that its permit applications would not be unreasonably delayed. Id. at 9. This explains the impossible time frame maintained by the Corps, and the many resulting mistakes. The Corps did what it was told.

-Mosaic instructed the Corps to "Use Existing Information." Id. at 9-11. It then proceeded to tell the Corps which "existing information" should be used, going so far as to provide reports summarizing the information it wanted used, and supplying new information itself where it felt the existing information was insufficient to make its point. Id at 11 (bay wetlands). In fact, the Appendix to its letter lists a number of new data assemblies which Mosaic wanted considered. As discussed above, the Corps complied, considering data supplied by Mosaic but rejecting any need to consider data from USGS, SWFWMD or data prepared at their urging. As noted above, it also left out data supplied by public commenters, including the Environmental Groups.

-Mosaic instructed the Corps to include all of the claimed economic benefits of phosphate mining and provided its own report (new) and its own IMPLAN study (new) to support them. Id. at 12-13. It made no reference to consideration of the economic benefits of the environmental values which might be affected, and again, the Corps did exactly what it was told. Significantly, Mosaic went to some lengths to warn the Corps NOT to consider its business decisions, even though the USEPA economists had provided certain elements which should be considered in an EIS (provided by the Environmental Groups in their letter dated April 20, 2011and by Percy Angelo in her letter dated April 19, 2011) and even though the entire purpose and need discussion, by Mosaic and the Corps, rests on the need to protect the miners' economic expectations. Again, the Corps did what it was told, parsing its obligations to consider economics when Mosaic wants them considered, but to ignore economics when Mosaic wants them ignored. The Corps in fact simply accepted an economic study prepared by a Mosaic contractor, EcoNorthwest, 3-138, abandoning any pretense that it is preparing the AEIS.

As pointed out in earlier sections, the issues on which Mosaic instructed the Corps, and the Corps obeyed, are extremely damaging to the public and the environment. Mosaic basically instructed the Corps to exclude them from the analysis. The Corps agreement to do so demonstrates that the resulting draft is NOT an AEIS prepared by the Corps, as required by NEPA, but a Mosaic construction. It does not comply with the statute.

**-The Corps contractor for the AEIS has a conflict of interest which should bar its preparation of the AEIS**-Beyond its errors and omissions noted above, the Corps contractor, CH2MHill, has conflicts of interest which have apparently interfered with a neutral and professional AEIS study. In 2007 the Army outsourced its water and wastewater handling at Fort Campbell Kentucky to CH2MHill, where it produces fluoridated drinking water for the base. One of the mining byproducts is a fluoride compound which is sold for fluoridation of public water supplies. CH2MHill is also the contractor for water utilities in Florida that fluoridate municipal water, or fluoridate wastewater for groundwater injection, again using fluoride products similar to those sold by the mining industry. Further, CH2MHill is a leader in seawater desalination technologies. Desalination is a hot topic in the areas impacted by mining, because of its extraordinary cost (Tampa Bay Water has spent over $300 million to date to build and repair its desalination plant-an amount which does not include very significant operating costs) and because of evidence that it would not be required were it not

for the extreme amounts of aquifer pumping allowed to industries such as mining and other users. CH2MHill profits from at least two technologies driven and created by phosphate mining, the need for desalination and the use of cheap fluoride products for its water/wastewater business. These conflicts interfere with a neutral evaluation of the issues and have contributed to the numerous flaws and deficiencies noted in the draft AEIS.

We have participated actively and constructively in your process, supplying much technical data and information and numerous comments which have been carefully considered by the organizations which we represent. We have sought out input from the public and from experts to insure that our comments are as informed as possible. We know that the issues we present to you in these comments are issues which many believe to be important, and, for the reasons given above and in our prior submissions, we ask that you broaden your analysis to consider the true cumulative impacts of a mining program which will impact well over a million acres of Central Florida for easily the next 100 years.

Thank you for your service and your concern for our environment.

Very truly yours,

On behalf of
Manasota-88
People for Protecting Peace River (3PR)
Protect Our Watersheds (POW)
Sierra Club Florida Phosphate Committee

Cc: (w/o enclosures)
Duncan Powell, USEPA powell.duncan@epa.gov
Tony Able, USEPA able.tony@epa.gov

Submission number 544

-----Original Message-----
From: jowms@tampabay.rr.com [mailto:jowms@tampabay.rr.com]
Sent: Tuesday, June 26, 2012 9:31 PM
To: Fellows, John P SAJ
Subject: The AEIS

The people of Florida have waited many years for this comprehensive Areawide Environmental Impact Study regarding the cumulative impacts of phosphate mining over 50,000 acres in our state and, to a lesser degree, 200,000 more acres. But to our great surprise and disappointment, the people have only been given 45 days to read and understanad this highly technical, 1,200 page document. Please, please, please give us more time to secure and then read, read, read and digest this lengthy, but exceedingly important study that the Corps of Engineers has undertaken.
Thank you for consideration of this request. Helen Jo Williams, 1337 Perico Pointe Circle, Bradenton, FL 34209

Classification: UNCLASSIFIED
Caveats: NONE

Submission number 545

# City of Punta Gorda, Florida


CHIEF PLANNER
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VIA U.S. MAIL & E-MAIL: John.p.fellows@usace.army.mil

July 30, 2012

John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610-8302

Re: Staff Review of Draft Areawide EIS on Phosphate Mining in the Central Florida Phosphate District

Dear Mr. Fellows:

The City of Punta Gorda appreciates the opportunity to review and comment on the May 2012 *Draft Areawide Environmental Impact Statement (DAEIS) on Phosphate Mining in the Central Florida Phosphate District.* The City of Punta Gorda is situated on the Peace River which is included in the Charlotte Harbor National Estuary Program and approximately one half of the City's proposed waterfront area lies within the Aquatic Preserve. The City has traditionally benefitted economically from the Peace River and Charlotte Harbor and the natural resource is a key component and economic engine for the City's future plans. Pursuant to the City's Comprehensive Plan, City Staff supports the Charlotte Harbor National Estuary Program's comments on the current phosphate mining applications being reviewed in Central Florida based on Policy 2.1.2.7 of the Conservation and Coastal Management Element of the City's Comprehensive Plan states: *"Punta Gorda will support the recommendations of the Charlotte Harbor National Estuary Program's Comprehensive Conservation and Management Plan."*

Thank you again for the opportunity to participate in the development and review of the DAEIS.

Sincerely,

*Joan F. LeBeau*

Joan LeBeau
Chief Planner, Urban Design
City of Punta Gorda

Punta Gorda
It's Happening On The Harbor

# United States Department of the Interior

## OFFICE OF THE SECRETARY

**Office of Environmental Policy and Compliance**
**Richard B. Russell Federal Building**
**75 Spring Street, S.W.**
**Atlanta, Georgia 30303**

ER 12/402
9043.1

July 31, 2012

John Fellows
U.S. Army Corps of Engineers
Tampa Regulatory Office
(ATTN: Draft AEIS Comments)
10117 Princess Palm Drive, Suite 120
Tampa, FL 33610.

Re: Comments on the Draft Environmental Impact Statement (DEIS) for the Central Florida Phosphate District Mining, Phosphate Mining in Charlotte, DeSoto, Hardee, Lee, Manatee, Polk, and Sarasota Counties, FL

Dear Mr. Fellows:

The United States Department of the Interior is closely involved in the review of the DEIS for the Central Florida Phosphate District Mining, Phosphate Mining in Florida. Three of the four proposed mines including CF Industries' South Pasture Extension (SAJ-1993-01395), Mosaic Fertilizer LLC's Desoto Mine (SAJ-2011-01968), Mosaic Fertilizer LLC's Ona Mine (SAJ-2010-03680), and Mosaic Fertilizer LLC's Wingate East Mine (SAJ-2009-03221) are located within our area of responsibility.

Ecologic resources that are most likely to be affected by the proposed mines or their alternatives include herbaceous and forested wetlands, intermittent and perennial streams, and associated aquatic resource habitats. Approximately 10,000 acres of Waters of the United States and an additional 260 acres of other wetlands will be impacted by these projects. In terms of linear feet of projected cumulative loss of stream habitats, the total estimate for the four projects combined is 260,000 feet. Cumulative impacts to wetland systems are proposed to be mitigated through the state's reclamation requirements (acre for acre replacement) plus additional habitat enhancement or creation requirements linked to wetlands restoration elements of the mitigation plans that will be developed and included under the subject permits, if approved.

Impact avoidance, minimization, mitigation, threatened and endangered (T&E) species surveys, and conservation measures resulting from these projects are currently under discussions. Thus, all of the Corps determinations on T&E species remain preliminary and subject to revision. We

will address these mines' impacts on T&E species and their supporting habitats through project specific Biological Opinions at a later time.

**General Comments**

**Section 3.3.6 Wildlife and Protected Habitat**

The document describes studies that include inventories of species (pg. 3-118); however, the document does not identify the species that might be impacted. We suggest that the Final Environmental Impact Statement (FEIS) include an evaluation of the species that might be impacted; by habitat. Information is available in the United States Geology Survey (USGS) Breeding Bird Survey site, which includes routes that are close to the project area. The locations of the bird routes for Florida can be found on the internet at: http://www.pwrc.usgs.gov/BBS/results/routemaps/routeMapStatic.html.

The list of species for each route is available at: https://www.pwrc.usgs.gov/BBS/PublicDataInterface/index.cfm.

Routes are available at: http://www.pwrc.usgs.gov/BBS/results/routemaps/routeAssignMap.cfm.

The degree to which bird populations may be affected depends on the status of the species. We suggest the Final EIS include a list of birds in the area, and an evaluation of the likely impacts relative to the trends in the status of avian species. Information on the trends in bird populations can be found at http://www.mbr-pwrc.usgs.gov/bbs/bbs.html and in Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2011. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2010. Version 12.07.2011 USGS Patuxent Wildlife Research Center, Laurel, MD available online at http://www.mbr-pwrc.usgs.gov/bbs/*

Thank you for the opportunity to review and comment on the DEIS. If you have any questions concerning our comments, please contact Craig Aubrey (FWS) at (772) 469-4309 or Gary LeCain (USGS) at (303) 236-1475 or via email at gdlecain@usgs.gov. I can be reached on (404) 331-4524 or via email at joyce_stanley@ios.doi.gov.

Sincerely,

Joyce Stanley, MPA
Regional Environmental Protection Assistant

for

Gregory Hogue
Regional Environmental Officer

cc: Jerry Ziewitz – FWS – Region 4
Brenda Johnson - USGS
Anita Barnett – NPS
Chester McGhee – BIA
Craig Aubrey – FWS
OEPC – WASH

Submission number 547

-----Original Message-----
From: John Meyer [mailto:johnm@tbrpc.org]
Sent: Thursday, August 02, 2012 9:10 AM
To: Fellows, John P SAJ
Cc: Suzanne Cooper
Subject: Draft Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District - Comments

Mr. Fellows:

Tampa Bay Regional Planning Council staff has completed our review of the USCOE's "Draft Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District" and have attached a copy of our comments for your review and/or consideration.

If I/we can be of assistance and/or clarification of our concerns are requested, please do not hesitate to contact me (ext. 29) or Ms. Suzanne Cooper (ext. 32). Thank you.

John M. Meyer
DRI, LEPC and IC&R Coordinator

Tampa Bay Regional Planning Council
4000 Gateway Centre Blvd., Suite 100
Pinellas Park, FL 33782
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Classification: UNCLASSIFIED

Tampa Bay Regional Planning Council

# IC&R

**Intergovernmental Coordination and Review**
4000 Gateway Centre Boulevard, Suite 100, Pinellas Park, FL 33782
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**DRAFT AREAWIDE ENVIRONMENTAL IMPACT STATEMENT (DAEIS) ON PHOSPHATE MINING IN THE CENTRAL FLORIDA PHOSPHATE DISTRICT; HILLSBOROUGH, MANATEE AND FIVE OTHER COUNTIES; SAI #FL201205296249C, IC&R #052-12**

The aforementioned project has been reviewed for consistency with the *Future of the Region: A Strategic Regional Policy Plan for the Tampa Bay Region* (2005).

## Introduction

The Florida State Clearinghouse has requested review and comment on the above-referenced document, prepared by the U.S. Army Corps of Engineers, which covers proposed and potential future phosphate mining within an area of ± 2,100 square miles within portions of DeSoto, Hardee, Hillsborough, Manatee, Polk, and Sarasota counties known as the Central Florida Phosphate District (CFPD). The U.S. Army Corps of Engineers has received four applications for Department of the Army permits under Section 404 of the Clean Water Act to expand existing phosphate mines, as well as to create new mines and to construct attendant facilities. The USACE has determined that, collectively, the proposed activities have similarities that provide a basis for evaluating their environmental consequences together in one comprehensive EIS. The primary federal involvement is the discharge of dredged or fill material into Waters of the United States, including jurisdictional wetlands.

The Final Areawide Environmental Impact Statement will serve as the Basis for Decision by the USACE to deny, issue with modifications, or issue permits based upon 25 alternative scenarios that were evaluated. The FAEIS intended to be sufficient in scope to address federal, state, and local requirements and environmental issues and permit reviews for the proposed projects.

## Project Description

Phosphate mining on a large scale has occurred in central Florida since 1920. The CFPD provides 51 percent of the U.S. supply, but mineable reserves within approved mines will be exhausted before 2030 and mining will cease unless new mines are approved. An estimated 600 metric tons of phosphate remains in the CFPD

Three levels of potential mining activities are identified in the DAEIS:

1. Four mines or mine extensions under permit application review: Wingate East Mine Extension in Manatee County, Ona Mine and South Pasture Mine Extension in Hardee County (30,549 acres), and DeSoto mine in DeSoto County (18,463 acres). Within the boundaries of the Tampa Bay Region, the proposed Wingate East Mine Extension would add 3,635 acres to the Wingate Creek Mine in eastern Manatee County, all within the Myakka River watershed. Mining would be conducted over 27 years (ca 2019 - 2046) with reclamation activities continuing for an additional eight years. Mining would impact 940 acres of wetlands and over 6.1 miles of streams under federal jurisdiction. Two other, small parcels (G&D Farms and Lambe) within Manatee County have also been proposed for mining, but are infill parcels within existing mines and are not addressed in the DAEIS.

2. Three potential large mine projects: Pine Level/Keys mine tract in Manatee and DeSoto counties (24,509 acres), Pioneer Tract in Hardee County (25,231 acres), and Hardee County Mining Overlay - South Segment (14,966 acres), all using existing beneficiation plants. The Pine Level/Keys Tract, totaling 24,509 acres, is located in Manatee and DeSoto counties and within the Big Slough watershed of the Myakka River. This potential future mine would be an extension of the DeSoto Mine and operations would not occur until approximately 2034. About 25% of the area is wetlands while over half of the total area is in agriculture.

3. An additional 17 tracts identified due to size and proximity to existing or proposed mines or location within the study (Central Florida Phosphate District) boundaries, and assuming that phosphate ore is present and in economically mineable quantities. These sites could serve as alternatives to potentially be developed instead of Applicants' proposed mines (see 1 and 2 above) or be proposed for mining at a far future date. Of these, eight are wholly in the Tampa Bay region and three are partially within the region. Tract sizes vary from about 7,250 - 9,000 acres, and total approx. 90,000 acres in Manatee County alone. Of these, eight are completely in the Myakka River watershed; two are in the Manatee River watershed; one is partially in the Little Manatee River watershed and one is partially in the Peace River watershed.

The study considers each site individually, and also considers a No Action alternative, which entails continuation of mining activities already permitted but no issuance of federal permits for the proposed four mines/extensions. The mining companies would have the option to pursue mining of uplands and wetlands that are not under federal jurisdiction, but this scenario was not assumed or addressed within the DAEIS.

The areas of concern addressed in the DAEIS include: ecological resources, including loss of wetlands and mitigation; groundwater quality and levels, especially the Floridan aquifer; surface water quality and quantity, including the flows of the Peace and Myakka rivers, their tributaries, and water delivery to the Charlotte Harbor estuary; local and regional economic effects of phosphate mining; federally-listed species; effectiveness of reclamation and ecosystem restoration; potential effects on recreation, public health, cultural resources and nvironmental justice; future uses of reclaimed areas; and more.

## Regional Significance

The regional significance of the projects analyzed within the scope of the DAEIS is based on pertinence to the goals and policies of the Council's Future of the Region - A Strategic Regional Policy Plan for the Tampa Bay Region, including impacts to natural resources of regional significance, the regional economy, and the regional transportation system.

## Applicable SRPP Goals and Policies

2.B: Promote export of Tampa Bay region products and services, attract venture capital, and build businesses to expand the number and quality of job opportunities.

2.E: Maintain and expand food, agriculture, ornamental horticulture, aquaculture, forestry and related industries production to be a competitive force in the national and international marketplace.

2.12: Encourage supportive and complementary industrial and commercial activities to locate in proximity to each other to establish linkages between such activities and the services they provide.

2.23: Support the development and consistent application of equitable site location standards for Locally Unpopular Land Uses (LULUs) or controversial public facilities where a balance is drawn between their efficient function and the fewest negative impacts in order to prevent the inequitable concentration of such uses in disadvantaged neighborhoods.

2.36: Protect historic properties that are designated to be of local, regional, or national significance and are eligible for nomination to the appropriate local or national historical register.

4.A: Protect the quality of surface water and groundwater in the region.

4.B: Assure an adequate supply of water to meet all projected human and natural needs.

4.E: Protect regionally-significant natural resources from degradation resulting from dredging and dredge-material disposal.

4.F: Maintain the integrity and natural value of marine, estuarine, and intertidal habitats.

4.1: Protect, preserve, and restore the natural functions of riverine systems including prohibiting new development in riverine floodways.

4.6: Reduce pollutant loading from permitted point sources and the number of sources which negatively impact the quality of receiving waters.

4.8: Manage agricultural runoff with Best Available Control Technologies and/or Best Management Practices to minimize its impact upon receiving waters.

4.16: Prevent new groundwater withdrawals that would increase salt water intrusion, interfere with existing uses of water, or cause damage to regionally-significant ecosystems or area geology.

4.18: Protect natural resources and ecosystem values from surface water and groundwater withdrawals that significantly impact the natural seasonal flows, water level, and hydrology.

4.34: Promote environmentally-acceptable effluent disposal alternatives and encourage water conservation and alternative water source use including the use of reclaimed wastewater.

4.42: Minimize, and mitigate adverse impacts on wetlands and river systems by major water users.

4.43: Protect, preserve, and restore all regionally-significant natural resources shown on the Map of Regionally-Significant Natural Resources.

4.44: Allow impacts to regionally-significant natural resources only in cases of overriding public interest and when it is demonstrated and/or documented that mitigation will successfully recreate the specific resource. Mitigation should meet the following ratios, at minimum:

| | |
|---|---|
| • Seagrass | 4:1 |
| • FNAI Habitat 04 | 3:1 |
| • FNAI Coastal 04 | 3:1 |
| • FNAI Natural Communities | 3:1 |
| • LULC Habitat Dry | 2:1 |
| • LULC Habitat Wet | 3:1 |

4.45: Ensure that mitigation by habitat re-creation employs native plant material which provides the same natural value and function. Monitor mitigation areas for a sufficient time to ensure success: a minimum 85 percent final coverage of desired species. Yearly maintenance and replanting should be undertaken to ensure final cover as necessary.

4.47: Recognize that mitigation efforts shall be:

- Performed within the same drainage basin where the unavoidable impacts to regionally significant wetlands occurs; and
- Allowed only after avoiding impact to the greatest extent possible; and that habitat creation, restoration, and enhancement, with long-term management, be considered as viable methods of impact mitigation.

4.49: Maintain and improve native plant communities and viable wildlife habitats, determined to be regionally-significant natural resources in addition to the Map of Regionally-Significant Natural Resources, including those native habitats and plant communities that tend to be least in abundance and most productive or unique.

4.57: Ensure that land use decisions are consistent with federal- and state-listed species protection and recovery plans, and adopted habitat management guidelines.

4.61: Permit mining activities in regionally-significant natural areas only when it has been demonstrated/ documented that the areas can be successfully restored, consistent with the requirements of permitting agencies and when no permanent adverse environmental impact will result.

4.62: Ensure that the exploration and development of mineral resources only proceed in an ecologically sound manner.

4.63: Design mining practices to protect regionally-significant natural resources from the adverse effects of resource extraction.

4.64: Promote landscape reclamation, including, but not limited to establishing functional and diverse ecological communities, achieving a balance of human uses and natural lands, and engineering post-reclamation hydrology compatible with regional hydrology.

4.65: Promote and enhance watershed health and viability through reclamation plans and activities which coordinate developed areas, operational mine areas, preservation areas, and mandatory, non-mandatory and unreclaimed lands within each watershed into a comprehensive watershed plan.

4.66: Utilize vegetation native to the Tampa Bay region for mining reclamation and mitigation.

4.67: Implement a regional mining clearinghouse or data center to facilitate the coordination of regional information on phosphate mining activities and the coordination of reclamation and future land use planning.

4.68: Encourage continued development and implementation of the integrated habitat plan.

4.69: Require within mining plans the preservation of sufficient contiguous upland areas adjacent to the 25-year flood plain for the purpose of establishing/maintaining wildlife corridors, greenways, buffering the floodplain, and promoting healthy wetland system values and functions. Protect these areas from adverse adjacent mining activity impacts.

4.70: Identify and map prior to any land clearing for mining activities, the habitats of species listed in 39-27.003-.005, F.A.C., and 50 CFR and provide an opportunity for review by the Florida Fish and Wildlife Conservation Commission (FFWCC), the U.S. Fish and Wildlife Service and the local government. Also, a habitat protection plan based on the identified habitat areas should be reviewed by FFWCC, the U.S. Fish and Wildlife Service and the local government. The plan should be in effect throughout the mining and reclamation period.

4.98: Discourage development in the undeveloped 100-year floodplain.

4.99: Implement floodplain management strategies to prevent erosion, retard runoff, and protect natural functions and values.

4.110: Incorporate specific mitigative measures to prevent fugitive dust emissions during excavation and construction phases of all land development projects which produce heavy vehicular traffic and exposed surfaces.

4.111: Implement land use-related performance standards that minimize negative air quality impacts resulting from development.

5.9: Protect the functional integrity of the West Central Florida's Chairs Coordinating Committee's (CCC) Regional Roadway Network, the Florida Intrastate Highway System, and the Strategic Intermodal System through coordination of local government comprehensive plans, MPO plans, and land development regulations.

5.11: Support the coordination of truck route plans (goods movement plans) to minimize damage to roadways and reduce impacts on residential neighborhoods.

5.71: Identify, prioritize, and improve present and future intermodal surface links to the region's port facilities to improve the movement of cargo and people.

5.81: Discourage coal and phosphate shipment by truck on public highways due to the potential for road surface and sub-grade deterioration.

## Regional Comments

The DAEIS identifies potential impacts associated with proposed or potential phosphate mining operations within the Central Florida Phosphate District.

**Issues of Concern:**

- Natural Resources of Regional Significance. **The DAEIS states that NRRS would be adversely impacted by proposed or potential mining activities. The attached map identifies those resources which would be affected. Council policies provide the preferred manner for mining and other development to protect and restore regionally-significant natural resources.** It is not possible to calculate the acres of Natural Resources of Regional Significance which occur on the Wingate East Mine Extension site.
Analyses of the effects of imposing 1,500-, 3,000- and 6,000-foot buffer zones around the mine sites to protect high quality natural habitat and wetlands, perennial streams and all streams were conducted for each proposed mine site. At the present time buffer widths are not set by rule and have rarely exceeded 500 feet in width. For the Wingate East Mine Extension in Manatee County, the results were as follows:

**Wingate East Mine Extension - Net Mineable Lands (acres) and Tons of Phosphate Rock Not Mined if Buffers Zones are Delineated for Environmental Protection (Mine proposal = 3,367 acres)**

| Category | 1,500-foot Buffer | 3,000-foot Buffer | 6,000-foot Buffer |
|---|---|---|---|
| High Quality Natural Habitat (CLIP Priority 1&2) | 291 acres<br>36,656 tons | 7 acres<br>40,040 tons | 0 acres<br>40,124 tons |
| High Value Wetlands | 3,162 acres<br>N/A | 3,032 acres<br>N/A | 3,030 acres<br>N/A |
| Perennial Streams | 2,121acres<br>14,848 tons | 974 acres<br>28,516 tons | 200 acres<br>37,741 tons |
| Perennial and Intermittent Streams | 1,387 acres<br>23,617 tons | 261 acres<br>N/A | 0 acres<br>40,124 tons |

A similar analysis was not conducted for the reasonably foreseeable potential mining sites.

Comparison of fauna (wildlife of all types) on unmined and mined/reclaimed sites generally showed a lower diversity of species on the mined sites. Due to large-scale, watershed-based reclamation planning, contiguous wildlife habitat is being reestablished across the landscape, and evolving techniques are resulting in more natural habitats. For the Wingate East Mine Extension, the applicant proposes to provide 18% more wetland acres and 3% more stream length, post-reclamation, than exist on the site. **The key is long-term protection of the recreated wildlife habitat and corridors.** About 30% of the land within the four proposed mines has been designated by the state for potential conservation as part of the Integrated Habitat Network. Under the four mining proposals, some percentage of the mining areas are proposed for reclamation into more natural habitats and turned over to the state under conservation agreements. No estimates are provided for the two reasonably foreseeable mine sites. Urbanization and agricultural practices result in fragmentation or permanent habitat loss. The DAEIS states that, due to existing regulatory and management agency oversight, "...the cumulative effects of the four proposed mines, the two reasonably foreseeable mines, the alternatives, and other actions on aquatic resources and upland habitat are expected to be insignificant."

- Surface and Ground Water. Water flow has been affected by agriculture, urbanization and mining within the region, but the mining industry has substantially reduced its daily water use from the practices of the 1970s and 1980s. It is estimated that surface water delivery to the Charlotte Harbor estuary via the Myakka and Peace rivers will be decreased by less than seven percent over the duration of projected mining (2019-2060) by the four proposed and two reasonably foreseeable mines as compared to the base case (2010). The

Southwest Florida Water Management District has capped allocations beyond the current except for agriculture, where there is a required 50 million gallons per day reduction in water use between 2006 and 2025. By 2060 flows are predicted to return to the pre-mining condition except at the potential Pine Level/Keys Tract, where mining is expected to extend beyond the period of study.

Under Alternative 1 - No mining - water use is expected to remain the same or increase due to population growth, increasing urbanization and other demands for the water. Water quality in surface waters is expected to be more affected by urbanization due to increased impervious surfaces, fertilizer use and other pollutants from developed land uses.

**The impact on surface water flows is being compared to the existing impact of mining industry operations and other surface water uses, rather than to flows without mining uses.**

- Economic ramifications. Operating the four proposed and two of the foreseeable mines has been determined to result in a loss of agricultural production, and an increase in mining-related production over the extension of time the industry would be operating in the region. Within Manatee County, the operation of the Wingate East Mine Extension and Pine Level/Keys mines would directly result in 141 jobs per year, with positive differences in wages of $2.2 billion and output of $7.5 billion over a projected continuation of current activity (predominantly agriculture) on the unmined lands during the 50-year study period. Operation of the proposed Wingate East mine (in Manatee County) alone would result in $7 million/year in tax revenues to the state and county over the 28 years of mine life. It is estimated that for every $1 million paid in local severance and property taxes 13.8 jobs are created within the local government and 20 throughout the multi-county region. "By 2050, mining would account for losses of 4% of citrus and pasture and 2% of row crop acreage that exist currently (in the five-county region). While farm employment and output are forecast to be less, higher economic activity due to mining, reclamation, shipping, and other mine-related activities, along with the secondary economic impacts they cause, will completely offset losses in agriculture."

  Under Alternative 1 - No mining - the presumption is that existing mines will continue to operate until the reserves are depleted and reclamation is complete. In Manatee County the existing mines are expected to be exhausted within the first ten years of analysis. Direct economic impacts have been estimated for the 40-year period. Output (from combined mining and agricultural production) will drop from over $633 million to about $68 million after the tenth year. Annual local government revenues will drop from $2.3 million to $600,000 because severance taxes will not be collected. **"Based on the economic analysis performed for this AEIS, (the analyzed phosphate mining scenarios) would have a positive, significant effect on the regional economy."**

  In, addition, Table 3-20 (Page 3-137) appears to be inaccurate and should be replaced or more sufficiently documented. The Table claims that 31% of Hillsborough County jobs are attributed to the agricultural sector. Likewise, 41% of all Manatee County employment is also directly attributable to agriculture. Table 3-20 identifies an employment base of 41,657 jobs exist related to agriculture in Manatee County.

- Public Health. Identified sources of risk to public health are air quality degradation and increased radiation associated with the mining and reclamation process, and catastrophic clay settling area dam failures. The DAEIS indicates that air quality concerns are adequately addressed by existing mining practices; that the risk of mining-related exposure to radiation is low due to aerial dispersion; that radon gas levels in buildings constructed on reclaimed mine cuts should not create a health risk as long as Florida Building Code requirements are maintained; and that the risk of clay settling area dam failure is minimal with proper implementation of the current rules regarding design and construction.

- Environmental Justice. The DAEIS included an analysis of potential impacts to minority and low income populations located in the vicinity of the four proposed and three potential mine sites. **It was determined that, in Manatee County, the proposed Wingate East mine extension proposal and one of the alternative**

**tracts are located near minority and low income populations, and the projects "warrant additional scrutiny for potential environmental justice issues."**

- Transportation. The DAEIS limits transportation-related impacts to infrastructure corridors (pipelines, access roadways and dragline walking paths) and an acknowledgment that new mining operations may require changes in local and regional traffic patterns and new railroad connections to allow transport of phosphate rock out of the area to fertilizer manufacturing facilities. **There is no analysis of the impact of potential new railroad lines, or of new truck hauling routes, on regionally-significant transportation facilities.**

- Land Use. The DAEIS examined the changes in land use which have occurred in the four watersheds where the four mining proposals and three potential mining operations are located. Weather (freezes) and urbanization have caused more significant changes in land use than extractive uses to-date. Little additional urbanization is expected in far eastern Manatee County over the foreseeable future, while agricultural uses will remain relatively stable as some lands are mined and others reclaimed for agricultural use.

**Land Uses in the Watersheds within the CFPD in the Years 1974/1975 and 2009**

| | PEACE & MYAKKA RIVERS | | LITTLE MANATEE & MANATEE RIVERS | |
|---|---|---|---|---|
| LAND USE | 1975 | 2009 | 1974 | 2009 |
| Agriculture | 712,516 acres | 665,708 acres | 160,828 acres | 131,620 acres |
| Urban | 126,291 acres | 268,666 acres | 20,313 acres | 90,421 acres |
| Native Cover | 804,986 acres | 672,127 acres | 186,234 acres | 142,929 acres |
| Extractive (Mining) | 18,607 acres | 25,981 acres | 272 acres | 2,227 acres |

**Analysis of the 17 alternative tracts** primarily identified land uses present, and the quality of the natural habitats and the agricultural lands on-site. Some inference is made, such as for groundwater use, surface water flows, water quality changes, etc., that the effects of mining the 17 alternative tracts would result in impacts similar to those caused by existing and proposed mines. **Generally all potential impacts of mining these tracts were deferred until an actual mining proposal is submitted.** If any of the sites are proposed for mining and would require new consumptive water use permits, the restrictions on such new uses within the Southwest Florida Water Management District's Southern Water Use Caution Area and the Most Impacted Area would come into play.

## Consistency with SRPP

The Draft Areawide Environmental Impact Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District addresses the pertinent goals and policies of the *Future of The Region - A Strategic Regional Policy Plan for the Tampa Bay Region* for the proposed and reasonably foreseeable mines within the Tampa Bay region, except for transportation. The analyses are very similar to those which were conducted for proposed mines as Developments of Regional Impact.

The analysis of the 17 alternative tracts was limited to existing land uses and characteristics. No analysis of potential mining-related impacts on regional resources was conducted for these tracts, and substantial additional study would be needed.

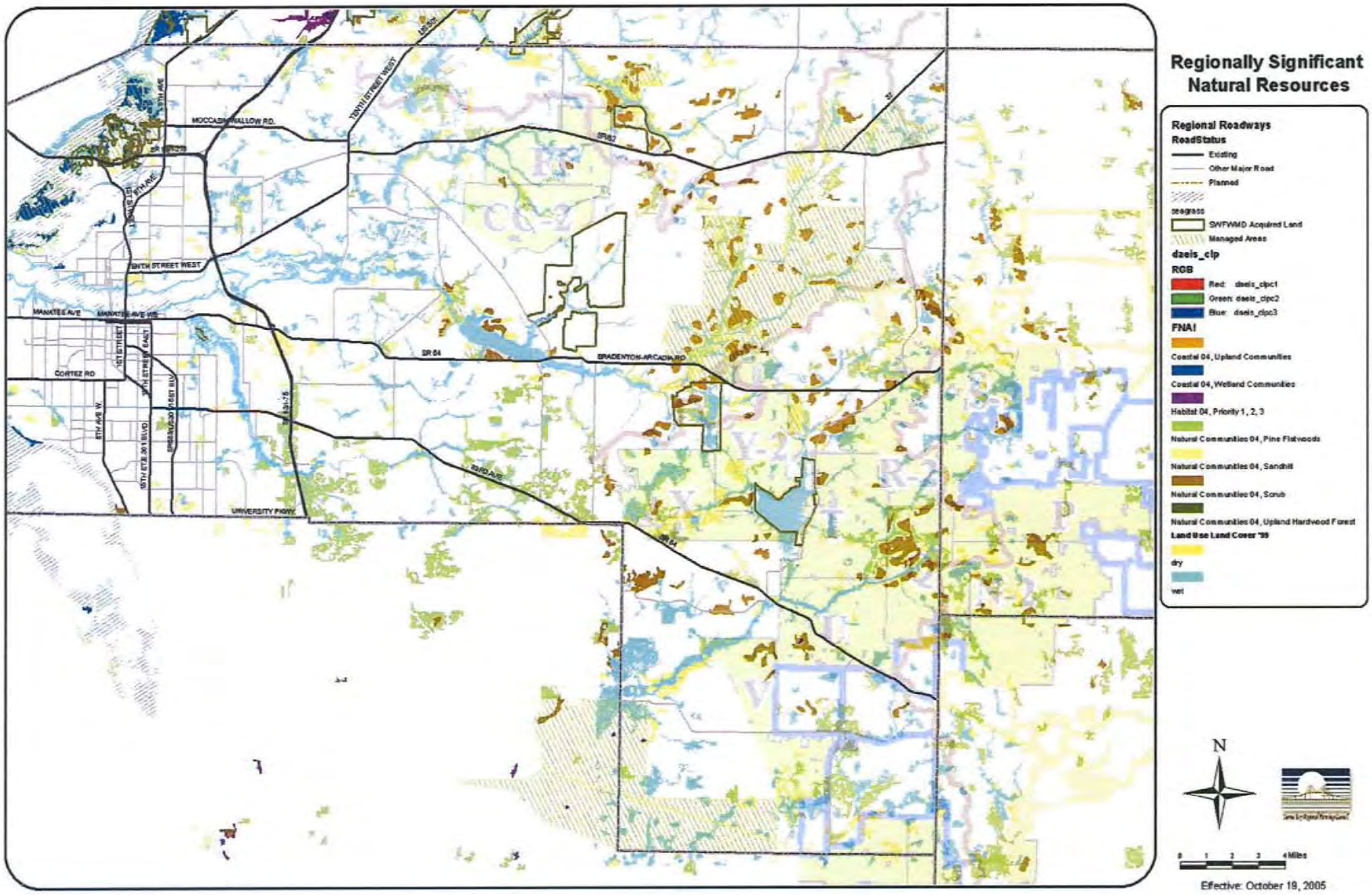
**Because the DAEIS does not provide information concerning the 17 alternative tracts that would be reasonably useful if any of these tracts are proposed for mining beyond the next 10 years, and the industry itself has not indicated its interest in these tracts, it is recommended that the Final AEIS not include identification of alternative tracts. Additional future plans for phosphate mining in the Central Florida Phosphate District should be considered through the federal, state and local permitting and planning processes, or potentially another Areawide EIS.**

Tampa Bay Regional Planning Council adopted August 13, 2012.

_____

Larry Bustle, Chair
Tampa Bay Regional Planning Council

**PLEASE NOTE:** This report constitutes completion of the Tampa Bay Regional Planning Council's review.


Regionally Significant Natural Resources
Regional Roadways
RoadStatus
Existing
Other Major Road
Planned
seagrass
SWFWMD Acquired Land
Managed Areas
daeis_clp
RGB
Red: daeis_clpc1
Green: daeis_clpc2
Blue: daeis_clpc3
FNAI
Coastal 04, Upland Communities
Coastal 04, Wetland Communities
Habitat 04, Priority 1, 2, 3
Natural Communities 04, Pine Flatwoods
Natural Communities 04, Sandhill
Natural Communities 04, Scrub
Natural Communities 04, Upland Hardwood Forest
Land Use Land Cover '99
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0 1 2 3 4 Miles
Effective: October 19, 2005
MOCCASIN WALLOW RD.
TENTH STREET WEST
MANATEE AVE
MANATEE AVE W.
CORTEZ RD
SR 64
BRADENTON-ARCADIA RD
UNIVERSITY PKWY
I-75

Submission number 548

UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
(727) 824-5317; FAX 824-5300
http://sero.nmfs.noaa.gov

JUL 3 1 2012

F/SER46:MS/rs

Colonel Alan M. Dodd
District Commander, Jacksonville District
Department of the Army, Corps of Engineers
Attn: Regulatory Division
South Permits Branch/Fort Myers Section
1520 Royal Palm Square Boulevard — Suite
310 Fort Myers, Florida 33919-1036

Dear Colonel Dodd:

NOAA's National Marine Fisheries Service (NMFS), Habitat Conservation Division, has reviewed the public notice regarding Department of the Army File Number SAJ-2010-03680 and the associated Draft Area Wide Environmental Impact Statement {AEIS) for Phosphate Mining in the Central Florida Phosphate District dated June 28, 2012. Your office has received four applications for permits under Section 404 of the Clean Water Act from Mosaic Fertilizer, LLC, and CF Industries, Incorporated, for four proposed phosphate mining projects. The specific projects in the AEIS include: (1) Mosaic's new Desoto Mine; (2) Mosaic's new Ona Mine; (3) Mosaic's extension to the existing Wingate Creek Mine; and (4) CF Industries' extension to the South Pasture Mine in Central and Southwest Florida.

According to information provided in the AEIS, the proposed projects could reduce freshwater inflows in the Myakka and Peace Rivers by as much as two percent. The AIES does not specifically identify or address potential secondary or cumulative effects of the reduced freshwater inflows on essential fish habitat (EFH) or commercially and recreationally valuable fish and invertebrate species within the lower Myakka and Peace rivers and Charlotte Harbor estuary. The role of freshwater inflows to sustain and maintain the ecologic health and diversity of estuarine ecosystems is widely documented and the impacts of reduced inflows should be thoroughly addressed in the Final AEIS.

Estuarine habitats in the lower Peace and Myakka Rivers and Charlotte Harbor are designated as EFH as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson Stevens Fishery Conservation and Management Act. Federal agencies that permit activities potentially impacting EFH are required to consult with NMFS and, as a part of the consultation process, prepare an EFH assessment. Contents of an EFH assessment should include:

1. An analysis of the effects, including secondary and cumulative effects, of reduced freshwater inflows from the proposed mining activities on EFH, federally managed fish and invertebrate species, and prey within the Myakka and Peace river estuaries and Charlotte Harbor;

2. The USACE's views regarding the effects of these activities on EFH; and,

3. Proposed mitigation or adaptive management strategies, if a demonstrated adverse impact to EFH and fishery resources would result from these activities.

EFH consultation can be initiated independent of other project review tasks or can be incorporated in environmental planning documents, such as the Final AEIS. Upon review of the EFH assessment, NMFS will determine if it is necessary to provide EFH conservation recommendations on the project.

Finally, the project area is within the known distribution limits of a federally listed threatened species under purview of NMFS. In accordance with the Endangered Species Act of 1973, as amended, it is your responsibility to review this proposal and identify actions potentially affecting endangered or threatened species. Determinations involving listed species should be reported to our Protected Resources Division (PRD) at the letterhead address. If it is determined the activities may adversely affect any species listed as endangered or threatened under PRD purview, consultation must be initiated.

If you have questions regarding NMFS' review of this project, please contact Mr. Mark Sramek at the letterhead address, by telephone at (727) 824-5311, or e-mail at Mark.Sramek@noaa.gov.

Sincerely,

Miles M. Croom

Miles M. Croom
Acting Assistant Regional Administrator
Habitat Conservation Division

Cc:
F/SER3

Submission number 549

# Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

July 13, 2012

Mr. John P. Fellows, Project
Manager Tampa Regulatory Office
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite
120 Tampa, FL 33610-8302

RE: Department of the Army, Jacksonville District Corps of Engineers
Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District – Charlotte, DeSoto, Hardee, Hillsborough, Lee, Manatee, Polk and Sarasota Counties, Florida.
SAI # FL201205296249C

Dear Mr. Fellows:

The Florida State Clearinghouse has coordinated a review of the subject Draft Areawide Environmental Impact Statement (AEIS) under the following authorities: Presidential Executive Order 12372; § 403.061(42), *Florida Statutes* (*F.S.*); the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-4347, as amended.

The Florida Department of Environmental Protection's (DEP) Bureau of Mining and Minerals Regulation indicates that the DEP has participated in coordination meetings, attended joint field reviews and provided comments during development of the draft AEIS, and will continue to do so in its role as a NEPA cooperating agency. Staff also advises that, in accordance with Chapters 373 and 378, *F.S.*, all lands mined after 1975 must be reclaimed to a beneficial use and wetlands restored on an acre-for-acre and type-for-type basis. Since 1975, a total of approximately 187,215 acres of uplands and wetlands have been mined, and approximately 71% of those lands have been reclaimed. Please refer to the enclosed DEP memorandum and contact Mr. Orlando Rivera at (850) 488-8217, ext. 33 for further information.

The Florida Department of State (DOS) has reviewed the draft AEIS and notes that, although the cultural resource data collection is thorough and well documented, the data synthesis provided does not reflect an analysis of the cultural resource surveys that

have been conducted to ensure that they meet current federal and/or state survey standards. The DOS expresses significant concern that cultural resource surveys conducted prior to 1990 may not have included subsurface testing, or very limited testing of this nature. Please see the enclosed DOS letter for additional details.

Based on the information contained in the draft AEIS and enclosed agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the proposal's continued consistency with the FCMP, the concerns identified by the DOS must be addressed prior to project implementation. The state's continued concurrence will be based on the activities' compliance with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during subsequent regulatory reviews. The state's final concurrence of the projects' consistency with the FCMP will be determined during the environmental permitting process in accordance with Section 373.428, *F.S.*

Thank you for the opportunity to review the draft document. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170 or Lauren.Milligan@dep.state.fl.us.

Yours sincerely,

Sally B. Mann

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm
Enclosures

cc: Lisa Robertson, DEP, BMMR
Doug Fry, DEP, OSLER
Laura Kammerer, DOS

Florida Department of
Environmental Protection

# Memorandum

TO: Lauren Milligan, Environmental Manager
Florida State Clearinghouse

THROUGH: Calvin Alvarez, Chief
Bureau of Mining and Minerals Regulation

THROUGH: Lisa Robertson, Administrator
Program Management and Evaluation Section

FROM: Orlando E. Rivera, PWS, Administrator
Mandatory Phosphate Section

DATE: June 26, 2012

SUBJECT: Bureau of Mining and Minerals Regulation (BMMR) Comments on Department of the Army, Jacksonville District Corps of Engineers – Draft Areawide Environmental Impact Statement (AEIS) on Phosphate Mining in the Central Florida Phosphate District – Charlotte, DeSoto, Hardee, Hillsborough, Lee, Manatee, Polk and Sarasota Counties, Florida. SAI # FL201205296249C

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The Department's Bureau of Mining and Minerals Regulation (Department) is the state's lead agency in the regulation of mine reclamation. Currently, all mining in Florida is subject to reclamation requirements. We are aware that by its very nature, strip mining for phosphate is an unattractive and intrusive land use. It is, however, a legal land use subject to the mandatory reclamation requirements of Chapter 378.202, Florida Statutes (F.S.) and the Environmental Resource Permit regulations under Chapter 373, F.S. Under state law, all lands mined after 1975 must be reclaimed to a beneficial use, and wetlands must be restored acre-for-acre and type-for- type. Reclamation standards for phosphate lands are detailed in Chapter 62C-16 of the Florida Administrative Code. Since 1975, approximately 187,215 acres (both uplands and wetlands) have been mined. About 71% of these lands have been reclaimed.

The Department has been involved in the proposed AEIS for phosphate mining in the Central Florida Phosphate District since January 2011. As a cooperative agency, the Department has participated in coordination meetings and joint field reviews as appropriate. The Department has shared the information we have regarding phosphate mining in Florida. The Department has also provided comments during the development of the Draft AEIS. The Department will continue working as a cooperative agency and will continue to share information and provide comments during coordination meetings.

The Department has issued two of the projects covered in the AEIS, CF Industries' South Pasture Extension Mine and Mosaic Fertilizer, LLC's Ona Fort Green Mine.

Thank you for providing us this opportunity to comment. If you have any questions, please contact me at (850) 488-8217.

Cc: Doug Fry, FDEP - BSLEP
Andy May, FDEP – BSLER
Marisa Rhian, FDEP - BMMR

Submission number 550
(Attachments Available)

**From:** James Cooper [mailto:jimgiba@earthlink.net]
**Sent:** Tuesday, July 31, 2012 12:09 PM
**To:** John Fellows (John.P.Fellows@usace.army.mil)
**Cc:** 'teamaeis@phosphateaeis.org'; powell.duncan@epa.gov
**Subject:** My DAEIS Comments on the CFPD

Good Morning John: ATTACHED above are my CFPD DAEIS comments to the Corps and to CH2MHill (Steven Gong).
Please be aware, I have also mailed these DAEIS comments to you as an original signed copy - last night.

NOTE: I am e-mailing these DAEIS comments to you today, as well, to ensure you receive my Comments "On Time" and within the official "Public Comment Period."
I have also requested, in my comments, that the ACE extend the current public comment period - another 90 days.
REQUEST #1: Would you please ensure Col. Conrad at your Jacksonville HQ receives my: 90 Day DAEIS - Public Comment Period "Extension Request."

REQUEST #2: Can you please acknowledge your electronic receipt of my attached DAEIS comments (above) – today!

Thank you,

Jim Cooper

President, POW
President, LBC
Resident of Charlotte County

FROM: Stanley James (Jim) Cooper E-mail: jcoop43@comcast.net
390 Coral Creek Drive, Cape Haze, FL 33946

DATE: July 30, 2012

TO: John P. Fellows, DAEIS – CFPD
Team Leader, Tampa Regulatory Office
E-Mail: John.P.Fellows@usace.army.mil

CC. Steven Gong: teamaeis@phosphateaeis.org

RE: **My Public Comments on: Draft AEIS – Central FL Phosphate Dist. (CFPD)**

Dear Team AEIS Staff:

Thank you for providing me with a CD-ROM version of the CFPD - DEIS to review. It is evident considerable time and resources have been expended to create this document. I commend your initiative in getting this product to me in a timely fashion and for the extensive array of documentation your staff has provided.

My Major Overall DAEIS Assessment: My review has been limited due to extensive length of the 1,200 page document and the limited and totally inadequate 60 Day Public Comment Period. My assessment: **The DAEIS as presently written is fatally flawed it & requires a "major" re-do.** I am going on record as being in fully support of: the 7 other sets of recent County & Agency Region-wide Public Comments to you, which all list: Fatal Flaws in the current DAEIS: (1) 4-Environmental Groups: POW, Sierra Club, 3PR & Manasota 88, (2) Lee County BCC, (3) Charlotte Co. BCC, (4) Sarasota Co. BCC, (5) Manatee Co. BCC, (6) The CHNEP, and (7) the PRMWA.

**MAJOR FLAW: PURPOSE & NEED STATEMENT:** It appears the Army Corps does not fully understand NEPA rules and has simply used the Annex K Letter request from the Mosaic Counsel to narrowly define the basic purpose of this Area Wide Study of the CFPD is simply to expeditiously mine Phosphate. It omits and disregards the need to use the EPA requested and Army Corps' agreed to a basic watershed approach in the Area Wide study, which balances the mining needs with at the same time avoiding via mining the degrading any EPA defined ARNI resources. See the instruction provide to the Army Corps from the EPA at Atch ------ . The Army Corps is also required to follow the 2008 Federal Rules on Aquatic Mitigation, which requires a "watershed approach" and this will be discussed in more detail later on.

**The DAEIS "Public Comment" Period can & must be Extended at least 90 more days**: There is ample precedent established by the Jacksonville District Army Corps to do just that. This new CFPD EIS is an AREA-WIDE EIS Study for "multiple future mines." It is NOT a Site Specific EIS study for only one (1) mine. Yet in 2003, when the same Jacksonville Army Corps provided the DRAFT EIS for the IMC (now Mosaic): ONA Mine (which at that time was only 20,000 acres) the Corps provided (at first) 60 days for Public Comments & then after strong county, agency and public criticism, they extended the Public Comment Period another 60 days to allow 120 days of Public Comments. Irony: Now the CFPD DAEIS for (1) ONA Mine (as presented by Mosaic) has grown by 10% in scope to be more than 22,000 acres, just by itself. Likewise, we are now told it will in fact it will operate for the next 45-50 years! But wait, the CFPD DAEIS also includes 3 more area mines: (2) Wingate East (Mosiac), (3) DeSoto (Mosaic), and (4) South Pasture (CFI). Likewise, the DAEIS area scope has increased to now cover (Impact) almost 4X the acreage which is 52,000 acres for all 4.

**REALITY: It is totally unrealistic of the Corps to expect truly "meaningful" comments on this DAEIS when they only allow 60 days to review an "AREA" (not Site Speciif) Study lasting more than 50 years & 4X the scope of a 1-Mine Site Specific EIS in only 60 days. Did I mention the DAEIS is more than 1,200 pages to read/comprehend?, unless the true intent of the industry & the Corps is to avoid any "meaningful" public comments from other busy Federal Agencies (EPA, USGS, F&WS & NMFS), the 7 Counties impacted, the Water Districts & the CHNEP?**

As the ACOE is the Lead agency for this DAEIS, clearly it is incumbent upon the ACOE to correct the above noted deficiencies (and more to follow) ASAP. Quite simply, what is required by the ACE is an expanded "new" DEIS, which has provides corrections for omitted NEPA elements outlined below and has the scope and time frame extended at least 90 more days! *NOTE: There is recent ACE precedent for this in the recent Auroa Mine Case in North Carolina where a* ***Supplemental Draft EIS (SDEIS)*** *was in fact published in 200, correcting many original Draft EIS major deficiencies. The irony here is that this was just a single Phosphate Mine Case where insufficient alternative data information was initially presented by the ACE. The Final DEIS for this mine was approved in 2009.*

**MAJOR FLAW in SCOPE:** The new Supplemental CFPD DAIES also should include "all" 6 "Future" mines in the CFPD area & not just the 4 listed future mines in the current CFPD study. By tangential (other alternatives) references these 2 extremely large new Mine areas are planned, clearly foreseeable & will require Army Corps Sect. 404 CWA Permits, such as: (5) PIONEER (Hardee Co) and (5) PINE LEVEL-KEYS (Manatee Co).

**MAJOR FLAW: All "ONGOING" Phosphate Mine operations in the CFPD scope of this study are NOT listed properly by name & accounted for "Cumulative Impacts" analysis on the watersheds per NEPA rules in this DAEIS**. This DAEIS fails to adequately address 6 other known by the ACE as ONGOING "active" Phosphate Mine providing daily IMPACTS to the CFPD and all possess Army Corps CWA permits in the CFPD, such as: Altman (Mosaic), South Ft Meade Extension (Mosaic), Wingate (Mosaic), Manson Jenkins (Mosaic), Hooker's Prairie (Mosiac) & South Pasture (CFI). This raises serious doubts about the true intent of this DAEIS & its industry proponents (both Mosaic CFI) & the Army Corps' and their knowledge of NEPA rules and the NEPA requirement to address all "PRESENT" KNOWN Cumulative Impacts. In fact, this serious omission appears to be an obvious attempt to circumvent NEPA rules. *Why does the DAEIS fail to follow NEPA rules and fail to properly analyze all known PRESENT Cumulative Impacts on the entire 7-county region ecosystem and downstream impacts to its heart - Charlotte Harbor & its 4,400 mile coastline– the key watershed & economic engine for the region, by not including all known mines.* All impacts must be properly analyzed based upon the timing (each season & each year) of each strip mine operation & the location of ARNI watershed streams & wetlands - noting any impacts to them?

**MAJOR FLAW: All "PAST" Phosphate Mine Operations known impacts in this DAEIS are Not properly listed by name and analyzed for their known "cumulative impacts" on the watersheds per NEPA rules, during the mining of the future the 4 future new mines cited**. The Army Corps and the industry proponents of this DAEIS are well aware that here are many mines falling under the FDEP 1975 Mandatory Mine Reclamation Rules which are NOT included in this study. Why? Upon review the FDEP internet web site I learned there are 28 Phosphate Mines in FL within the CFPD listed on their Post-1975 Mandatory Rate of Reclamation - tracking list, which requires 100% post-mining reclamation for each and all of these phosphate mines in the CFPD. Sadly, a review of in June 2012 shows the most recent FDEP ROR Report is a Dec 31, 2010. That latest FDEP: Mandatory Post 1975 Rate of Reclamation ROR Report list reveals (Attach _____):

**16 Total Industry strip mines in the CFPD, mining since 1975 – still have NOT attained FDEP's required goal of "100% Total Reclamation"after strip mining**. UNACCEPTABLE! Specifically:

- South Pasture (CFI- 6,083 acres): Began 2001 & still only 24% reclaimed.
- South Ft Meade (Mosaic – 10,701 acres): Began 1995 & still only 35% reclaimed.
- Wingate Creek (Mosaic – 1,005 acres): Began 1981 & still only 43% reclaimed.
- Four Corners/Lonesome (Mosaic -24,769 acres): Began 1985 & still only 47% reclaimed
- Hopewell (Mosaic – 2,575 acres): Bega1989 & still only 58% reclaimed.
- Ft Green (Mosaic- 22,245 acres): Began 1975 & still only 66% reclaimed.
- Ft Meade (Mosaic – 9,214 acres): Began 1975 & still only 69% reclaimed.
- Hookers Prairie (Mosaic – 9,214 acres): Began 1977 & still only 71% reclaimed.
- Nichols (Mosaic – 4,951 acres): Began 1975 & still only 72% reclaimed.
- Norelyn/Phosphoris (Mosaic -8,460 acres): Began 1975 & still only75% reclaimed.
- Clear Springs (Mosaic – 5,272 acres): Began 1975 & still only 78% reclaimed.
- Payne Creek (Mosaic – 9,756 acres): Began1975 & still only 87% reclaimed.
- Big Four (Mosaic- 4,175)): Began 1978 & still only 89% reclaimed.
- Haynesworth (3,234 acres): Began 1975 & now 98% reclaimed.
- Kingsford Complex (Mosaic – 14,475 acres): Began 1975 & now 98% reclaimed.

**HOW TO CORRECT this Major FLAW:** *This DAEIS must include **all 16** of these above cited NOT 100% Reclaimed CFPD Phosphate Mines in the "yet to be revised DAEIS" summary and analysis of PAST Cumulative Impacts, because these mines are each & all still trapping surface waters which are NOT yet recorded & properly analyzed for NEPA rules impacts downstream to Charlotte Harbor anywhere in this DAEIS.*

**MAJOR FLAW: Improper evaluation of NEPA "Cumulative Impacts" in the CFPD:**

All of the totally omitted mines: (1) The 16 known Past mines omitted (On the FDEP ROR list) - cited above), (2) plus the 6 Current Mines cited above (also omitted in the current DAEIS), (3) Plus all 6 known Future Mines Cited (yet only 4 are now presently cited as "future Mines) above should be all (Total 26) listed and *linked together in massive Excel spread sheet, along with any CSA's associated with them & still not recalimed & any Gyp Stacks associated with them or to be built which are toxic waste areas & cannot be reclaimed. This CFPD Master Phosphate Mines Cumualtive Impacts analysis Sheet should indicate: Acres of are impacted each year for the next 60-70 years:* based upon the time they begin mining until they cease mining & attain 100% reclamation. This Master List also needs to be broken down by precise names of streams, wetlands, creeks & rivers & Watersheds impacted in Watershed Groups (Like the Peace River Watershed & the Myakka River Watershed, etc.) - To fully enable proper NEPA "Watershed Approach" scientific evaluation of each year's Y& each season with that specific year's impacts. This initial Master CFPD DADEIS Mine List (26) identification and labeling effort by geographical location is essential to establish a baseline & realistically attempt to best identify & understand all of the potential primary & secondary "Cumulative Impacts" (NEPA rules) of phosphate mining on this entire region, to ensure the health & sustainability of all ARNI resources within the CFPD and downstream in Charlotte Harbor remain both healthy and sustainable during all phases of this gigantic Final "Mine Out" of the Southern CFPD which will encompass more than 90,000 Total mined acres and last more than 50-70 more years. NOTE: The DAEIS indicated (Page 1-19) only counting the 4 future mines listed in this DAEIS equates to **12,132 acres of Wetlands destroyed** & **86 ½ miles of Streams** destroyed. This is critical – As the Phosphate mining industry is about to open an entire new chapter in their Book of Florida –Mining. It is well documented that the Phosphate Industry is about to kick off their last

Florida Phosphate major mining expansion lasting until 2070 or later: At least 6 new mines in the South areas of Manatee, Desoto & Hardee counties with drag lines ripping out soil down to 50 feet.

- REMINDER: This new DAEIS mining will be in far closer proximity to Charlotte Harbor than ever before. **This Final Phase of intense strip mining in the fragile, delicately balanced watersheds of the South Bone Valley, which contain the headwaters of our 3 major water sources for drinking and maintaining Charlotte Harbor: the Peace River, Horse Creek and the Myakka River, poses a very real and dangerous threat to the health & sustainability of Charlotte Harbor – If the ACE does not strictly adhere to NEPA & EPA rules & avoid impacts to any ARNI – Wetlands or streams & creeks**. It is clear this final "Mine Out" phase of Phosphate Strip mining in the Southern CFPD will trigger: a monumentally vast and unwanted negative change to the geology & hydrology, if not done with the very best use of available neutral scientists, the best available scientific hydrology data, and the best adherence to NEPA rules, it will also negatively impact the economy. The "new reality" is that entire South CFPD region about to be mined will never be the same afterwards (after strip mining) despite reclamation efforts, if this DAEIS is not done properly, following all EPA & NEPA "watershed approach" rules due to the vast & dangerous cumulative impacts which phosphate strip mining brings with it (which is well documented) over the next 50-70 years.

- **The Corps is supposed to be "on board" in NOT destroying wetlands**. The ACOE on December 24, 2002, signed up with the EPA and several other Federal Agencies for a 17 point: National Wetlands Mitigation Action Plan (NWMAP) for 2003. This began a series of improving and implementing the key principals of a National Plan – of no more loss of wetlands, to which the ACOE is a signatory. A fundamental objective of the Clean Water Act Section 404 program is that authorized losses of wetlands and other waters are offset by restored, enhanced, or created wetlands and other waters that replace those lost *acres* and their *functions* and *values*. (NOTE: It is far more inclusive than acres only, it must include *functions and values*, especially when it comes to aquatic jurisdictional wetlands. Yet, unfortunately these key items appear to be totally ignored in the CFPD DAEIS?

- The NWMAP clarified how wetlands MUST be treated. There is a clear prioritization process, which is NOT followed in the CFPD DAEIS. NWMAP states: "Importantly, the regulatory program provides: (1) first, that all appropriate & practicable steps be taken to ***avoid*** impacts to wetlands and others waters (For DAEIS mines - Charlotte Harbor watershed), and then (2) that the remaining impacts be *minimized.* (3) before determining any necessary compensatory mitigation – to offset remaining impacts." Unfortunately, the DAEIS fails to take this important priority step sequence seriously, or it would not have impacted nearly 50% of USACE Jurisdictional Wetlands. "This mitigation sequence parallels that which is embodies in the National Environmental Policy Act governing the review of other federal actions as well." "Compliance with these mitigation sequencing requirements is an essential environmental safeguard to ensure that Clean Water Act objectives for the protection of the nation's remaining wetlands are achieved." Why are the *Tampa ACOE & this DEIS "out of step" with national policy:* **"No Net Loss of Wetlands?"** .

- The good news is that by 2005 the Corps was able to develop analysis within the "watershed context" and identify criteria for making compensatory mitigation decisions in this context. Then, by 2006 a better defined Federal CFR Rule on "Aquatic Wetlands Mitigation" was drafted using the "Watershed Approach" and the ACE signed on to participate.

- **In MARCH 2006, per 40 CFR Part 230 the Army Corps was required by Federal law to assess: adopting a "watershed" approach to wetland losses & wetland mitigation and to give priority in coastal areas to maintaining aquatic resources.** *This DEIS fails to include many scientific "health of the Harbor" studies for Charlotte Harbor. (explained - further on).*
- In **April 2008, 40 CFR Part 230 became law & the ACE was now mandated to adopt the "Watershed Approach" to each and all new Section 404 CWA Permits**. Sub-part J, Para 230.91 defines rules for "Compensatory Mitigation for Losses of Aquatic Resources. It clearly states: the "Watershed Approach" must be established by the ACE in DA - CWA permits to the extent appropriate & practical. *The ultimate goal of the watershed approach is to maintain & improve the quality and quantity of aquatic resources within watersheds and if mitigation is needed it should be via strategic selection of compensatory sites. The watershed approach ensures any project will provide the desired aquatic function (note: "functionality" remains a priority) and it will continue over time in a changing landscape. It considers the habitat requirements of all "important species." Clearly the Federal protected: Endangered Sawfish in Charlotte Harbor, the Peace & Myakka Rivers is an "important species" & its vital juvenile habitat nursery areas must be protected (See Sawfish discussion FLAW: later on).*

**FLAW IN DAEIS: CUMULATIVE IMPACTS ON CHARLOTTE HARBOR MISSING**? The 4,400 mile Charlotte Harbor Watershed managed by the CHNEP via EPA oversight is clearly impacted via reduced downstream flows to the Harbor originating in the CFPD due directly to DAIES identified industry Phosphate Mining and must be included in any reasonable NEPA rules watershed approach "Cumulative Impacts" analysis. Yet the DAEIS avoids this in violation of NEPA and in contradiction to this new Federal rules. *As the Corps needs more time, then while they are updating &expanding this DAEIS to meet NEPA standards, they can add in these key features.*

The NWMAP stated specifically, that in the past - *watersheds were not properly considered.* The CFPD DAEIS is a prime example, of this failure. Here is the new guidance: "Compensation mitigation decisions are made on a case-by-case basis and *often do not consider the proper placement of mitigation projects within the landscape context, the ecological needs of the watershed, and the cumulative effects of past impacts." "**The Federal agencies (in this case the ACE) will analyze the issues associated with better use of compensatory mitigation within a watershed context, with the assistance from the States and agencies (EPA).**" Following this analysis, the agencies WILL develop guidance to encourage placement of mitigation where it would have the greatest benefit and probability for the long term sustainability."* This guidance – was NOT followed in this DAEIS.

The NWMAP stated: "This guidance will help decision makers *utilize watershed-based planning tools/resources already developed by the agencies*, such as the Charlotte Harbor NEP: 3 key watershed health indicators, & State: Basin Management Approach, regional: Synoptic Assessment, Southeastern: Ecological Framework, and local: watershed management plans, land sustainability models, watershed planning efforts." It is NOT an option to avoid this. "*This guidance WILL compliment other non-regulatory watershed management initiatives & partnerships.*" **The DAEIS currently fails to consider Charlotte Harbor as a vital strategic national priority watershed system & they have failed to properly analyze, list, protect and prevent combined cumulative impacts from upstream mining on this vital regional area by failing to list and analyze all 6 known future large Phosphate CWA mines, which will account for 92,000 acres of new mining impacts lasting until 2070 or beyond.**

*Key NEPA Policy DEFICIENCIES in the DAEIS:*

**What are CUMULATIVE IMPACTS? Why are they important under NEPA and WHY-are they not addressed by the ACOE-per NEOPA Policy in the CPPD DAEIS?**

Per NEPA ACT 1970: (Sec. 1508.7) **Cumulative Impact** –" The Impact on the environment, which results from the *incremental impact of the action*, when added to other *past, present & reasonably foreseeable future actions* – regardless of what agency (Federal or Non-Federal) or person undertakes such actions. *Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.*" (Phosphate Mining is a major: "significant action")

**MAJOR PROBLEM**: (1) Per NEPA, This DAEIS must state all Cumulative Impacts, yet it does NOT fully consider a 5 year old Regional Phosphate Assessment (FDEP 2007 Peace River CIS) & many previously submitted in April 2011: Charlotte Harbor NEP studies. The DAEIS also fails this NEPA definition by failing to consider: ALL 6-new (Not yet CWA permitted) Phosphate Mines, which are known to be planned, which are clearly "*collectively significant actions that are reasonably foreseeable & taking place over a period of time.*" (as previously outlined).

**"MUST DO" DAIES FLAW FIX:** This DEIS MUST be expanded ASAP to evaluate the Total Impacts of all SIX **(6) known future hosphate Mines** in **One EIS**: About – 92,000 acres - as a group) on the Region. These 6 new phosphate mines are:

- (1) ONA (Mosaic)
- (2) WINGATE EAST (Mosaic)
- (3) DESOTO (Mosaic)
- (4) South Pasture Extension (CFI)
- (5) PIONEER (Mosaic)
- (6) Keys-Pine Level Manatee (Mosaic)

Per EPA May 1999 document (EPA 315-R-99-002): **Consideration of "Cumulative Impacts" in EPA Review of NEPA Documents is *not optional*: It is absolutely essential & mandatory!**

Quote: "The combined, incremental effects of human activity, referred to as "cumulative impacts," pose a serious threat to the environment. While they may be insignificant by themselves, cumulative impacts accumulate *over time*, from *one or more sources*. The DAEIS says mining takes 50 years and re-claiming at least 20 years (See Economic Analysis charts) . If you add in the 2 Future Mines – Omitted (Pioneer & Pine Level/keys)– just these 2 additional mines adds another 40,000 acres to the magnitude & scope of this AREA EIS & takes the timeline out another 10-20 years, so **this ADAEIS presently: Totally FLAWED & Not Acceptable**. The "over time" element obviously applies.

**EPA Must be Consulted and Provide Guidance to the Corps on this DAEIS**: Charlotte Harbor is federally protected, funded and monitored by the EPA as a National Estuary Program. What is most important is that at this time it is only one of two in the entire 20 plus NEP programs which is NOT yet "in decline." ECOMOMIC REALITY: It far less costly to maintain the current health of the Harbor than to attempt to bring it back – due to identifiable & preventable upstream CFPD phosphate mining impacts which can be avoided (or compensatorily mitigated) in a proper NEPA based DAEIS scientific cumulative impacts analysis & proper avoidance of ARNI critical resources. The CHNEP area includes the entire 4,400 mile shoreline of the Charlotte Harbor watershed area. To remain healthy and productive, it requires a regular (constant 4 season based) supply of adequate quantities of freshwater flows coming downstream from the Peace River, Horse Creek & Myakka Rivers which all are directly impacted by the 6 mines above as they originate in the CFPD. The downstream flows must be continuous during all 4 seasons in order to ensure the required salinity levels in the many fish nursery areas which are located there to remain healthy & sustainable.

**THE CEQ requires Assessment of Cumulative Impacts**: "Cumulative Impacts of an action can be viewed as *the Total Effects on a resource*, ecosystem, or human community of that action & all other activities affecting that resource - no matter what entity (federal, non-federal, or *private-such as in this case: Mosaic & CFI Phosphate Mining firms)* is taking the actions (In this case to obtain required Federal Section 404 Clean Water Act Permits.

--- "Cumulative Impacts that result in *significant impacts* can be the basis for adverse ratings.". "Ratings (By EPA Review) should be based on the *overall impact* of the proposed project or action, which includes *cumulative impacts"*.

--- "Comments should include mitigation measures to avoid or minimize damage to the environment or to protect, restore or enhance the environment. At a **minimum,** the mitigation should *address the project's contribution to the **cumulative impacts**."*

--- "Resources & Ecosystems" are key components to be evaluated for Cumulative Impacts: EPA reviewers should review IF: the NEPA analysis has identified the *resources & ecosystem components – Cumulatively Impacted* - by the proposed action & other actions. To determine *which resources* are *"cumulatively impacted"* and then ask these questions:

- --- Is the resource or habitat especially vulnerable to incremental effects?
- --- Is the proposed action one of several other similar actions in the same geographic area?
- --- Do other activities in the area have similar effects on the resource?
- --- Have these effects been historically significant for this resource?
- --- Have other analyses in the area identified a cumulative impacts concern?

Per the EPA: Ecosystem *components* should be considered, when they are significantly impacted by Cumulative Impacts. Here is a key example: Why they MUST be considered per the CFPD-DAEIS:

The 50 long years of intense Phosphate Mining & the subsequent 20 years of post-mining, reclaiming efforts at all known 6 future mines on the (1) Land and its ecosystems (primarily the Wetlands) & the (2) Water - how it affects the quality, natural aquifer storage, and flow levels for streams, creeks, and all tributaries flowing into Charlotte Harbor and all of their relevant ecosystems- all the way into Charlotte Harbor). How they affect the Surface water flows: pre & post mining & the Aquifer water levels: pre & post mining as well. (3) Air : Do the radiation components from gypsum stacks or clay settling areas have any negative impacts on local birds, wildlife, land habits or their water habitats. **Summary:** Any Cumulative Impacts on these 3 ecosystem elements "must" be analyzed in a DEIS.

**HOW Do you MEASURE "Cumulative Impacts"?**

DEFINITION: How to Measure "Cumulative Impacts:" (EPA-1999) **The MEASURE of cumulative effects – is *any change* to the "*function*" of these ecosystem components.**

EPA cites 3 Useful documents to review, when considering analysis of RESOURCE Components :

- The 1993 CEQ Report: Habitat Evaluation Issues in Environmental Analysis Review
- The 1993 CEQ Report: Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under NEPA

Cumulative Impacts can affect a broad array of resources and ecosystem components. In addition to biological resources, *other "resources"* - which should be considered include historic & archaeologic sites, socio economic issues (See the Weisskoff Memo) & *community structure & character.*

**EPA - ON WETLANDS analysis**: "Federal assessment & mitigation for the LOSS of Wetlands often focuses primarily on the *acreage* affected," (This appears to be the DAEIS only approach), "rather than considering the *function* of the wetland *within the broader ecosystem*. In such case, the

impact of the wetland might not be deemed significant, if the wetland had no immediate wildlife values or other notable characteristics. However, by expanding the assessment to consider the *full array* of wetland *functions* & *their importance, with a broader context, cumulative impacts* could be more fully assessed." Here is the EPA on Wetlands-Key Functions: " Important functions to focus on should include – the wetlands: (1) as a nursery for recreationally and or commercially valuable aquatic species; (2) its ability to not reduce essential EPA – ARNI vital downstream flows & likewise minimize downstream flooding; and (3) its ability to improve water quality."

**BIG PROBLEM**: Restoring WETLANDS (Note: From the previous Ona Mine – Site Specific DEIS in 2003 it showed how drantically resoring ONA wetlands is a long term effort: 10-15years min. to a national average of more than 25 years. Our Children & grandchildren will take over the monitoring process, it takes so long to complete. *Bonding - Must in place to ensure proper reclamation happens.*

**That ONA Mine 2003 DEIS showed very Alarming & Negative Impacts to WETLANDS:**

| | |
|---|---|
| 1st 5 Years: Total WETLANDS Disturbed/**Lost = 345** | Total **ReClaimed = 14** |
| 1st 10 Years: Total WETLANDS Disturbed/**Lost = 1,272.8** | Total **ReClaimed = 260** |

**TOTAL NET WETLAND LOSS = 1,012.8 Acres** (What are Cumulative Impacts??)
(Per ONA MINE 2003 DEIS Chart: 4.2-2, yet: NO good charts on this in the DAEIS?)

**MAJOR DAEIS FLAW in the this new CFPD AREA Study:** *The DAEIS does NOT contain a year by year, season by season, mine by mine CHART measuring impacts on each & all steams, creeks &rivers over time?* Instead: They intentionally avoid using this vital analytical tool (which is easily complied) & the ACE simply falls back to viewing "Yearly AVERAGES." This was correctly pointed out by noted regional hydrologist, Dr. Ralph Montgomery, who also provided the scientific hydrology data for each of the many basins in FDEP funded 2007 Peace River CIS! Thus, one cannot determine where & when in time & season "Critical friction points" occur, so that proper NEPA rules based scientific alternatives can be provided to *avoid* these negative situations - Per NEPA. At this time *Flows appear to be **reduced up to 16-20%,** which can & will harm the vital downstream health & productivity of Charlotte Harbor.* **THIS MAJOR FLAW MUST BE CORRECTED.**

**BONDING – Is a Key Issue & DAEIS FLAW to ensure the reclamation process is completed.** The need to: (1) Reclaim - any impacted Wetlands, or (2) Compensate - for any Loss of Wetlands acreage is a key part of the Clean Water Act. Per the former 2003 Ona Mine ACE: DEIS, This is a very long term: 10 to 25 year process. If you consult my DAEIS Comments on Page 3 (previously) in the CFPD reclamation in some cases 100% reclamation still not been attained. This is disgraceful. **RECOMMENDATION: The ACE should seriously look at holding off on issuing any NEW CWA permits until each parent mining firm attains a minimum average total reclamation rate for all their owned mines of at least 80%.** This is an industry Achilles heel! It needs to be more closely monitored (State –DEP). To assist the monitoring process State FDEP and County DEP Staff should include a realistic "Environmental Reclamation Minimum 5 year Monitoring Plan in their local planning and zoning land use Management Plans. Suggest implementing a science based Citizen Mine Oversight Group for each newly impacted DAEIS County) The present *very long-term mines and wetlands reclaiming timeframe* is TOTALLY UNACCEPTABLE!

**MAJOR DAEIS FLAW: The need to restore the physical blight and negative hydrological impacts of the numerous Clay Pit-Settling Pond Areas (CSA's) which take up 40% of mined land sites and stay in place for 20 years or more must be addressed.** *How to do it is not*

*addressed in the DAEIS? How to account for the LOSS of Surface Water Flows during the 20-30 year lifespan of the CSAs, loss of surface flows while mined lands are un-reclaimed & the permanent loss of Surface flows forever due to the Toxic GYPSTACKS lands which are forever lost & quarantined must be accounted for in financial terms, as well.*

**Financial Responsibility & Accountability by Miners over the next 50 plus years**. How can the state, counties or public to be sure the CFPD DAEIS (Mosaic & CFI) will not walk away, before all future CFPD Strip mining reclamation is complete; all functionality for streams, wetlands & soils is fully restored to the best levels possible and accepted by FDEP and the various Counties where the mining occurs is a real problem. Likewise, no contract is required to be signed by the HQ of each mining firm to guaranty a Bond to account for the potential problematic possibility in the future of costly "Gypstack final reclamation & restoration"? No one can forget the extremely costly (to Taxpayers) $200 Million - Piney Pont –Gypstack overflow disaster in Manatee County. This is a vital issue. BONDING at reasonably high limits for each mined area, CSA & Gypstack is the only real "*Insurance" for the state, the region and the impacted counties* – to ensure that *full reclamation & for Gypstacks – Costly Federal rules Toxic restoration actually happens & meets the agreed upon standards.* No County or the State can afford to pick up financial tab for the mess: like the Piney Point Plant: after a known environmental destroyer (phosphate mining) leaves toxic environmental degradation, which requires very costly cleanups & instead - simply declares bankruptcy, or sells out to a foreign investor? The public has a right, (and we depend on our elected officials to stand up for us) to be protected from this potential ecological & financial nightmare. **BONDING is a MUST!** *The DAEIS omits any Bonding options or any realistic protection to ensure full reclamation happens!*

**DAEIS FLAW: DOWNSTREAM INFLOW to the Harbor WATER FLOWS SUPPLY PROBLEM**: STREAM FLOWS from all major upstream tributaries which flow through the southern (presently not mined) areas of the CFPD all contribute significantly as a "watershed based system" to maintain a fragile environmental balance all year long – without future mining. What will happen quantitatively, qualitatively and in the actual timing of these esential flows each season: new mine by mine, year by year, by season as multiple new mines (at least 6 which are known and will mine out 92,000 new southern acres) several operating at the same times & at least 3 all directly impacting Horse Creek physically do to this incredibly delicate and vital system watershed downstream water flows balance to the regional water supply & various aquatic dependent vegetation and fish in the Peace River, Myakka River and the health of Charlotte Harbor is currently unknown, due to FLAWS in this DAEIS! **What we do know: Any major negative impacts, especially reduction of stream flows by at least 16-20% will be ABSOLUTELY CRITICAL & these reductions will create unwanted, unnecessary (many avoidable) "negative impacts" to Charlotte Harbor & its now healthy, productive ecosystems, fish nursery areas and its fishery.** (Please read noted hydrologist: Dr. Ralph Montgomery's analysis supplied by POW on 7/25/12)

QUESTIONS TO CONSIDER, As the MINING Drops Stream Flows Sharply: How does the Region deal with this reduction in water flow & availability? Will it decrease the Regional Water Supply & Needed Total Capacity? Can the reductions in stream flow be lessened by a change in mining patterns? What are the Habitat Impacts? Where are total "functional" environmental ecosystem impacts & how can they be avoided or mitigated? There are many serious "Friction Points" here.

**What happens over the NEXT 50 YEARS in this DAEIS is NOT cited, or properly analyzed in a NEPA rules "Watershed Systems Approach" Cumulative Impacts analysis?** Why Not? We

know the regional *human* population will be increasing. This will create a greater *Demand* on the regional water supply. Yet, during this same timeframe, only 4 of 6 known large future mines are mentioned in this DAEIS and yet: only these 4 mines account for 52,000 acres of mining over 50 more years? Yet,the known 6 planned Phosphate Mining activities in this Region *will* actually increase the acreages mined by 40,000 more acres to a total of 92,000 future acres mined & the time frame of the mining will now extend out to 70 more years! What we do know, which is not properly analyzed in the DAEIS is that all of the future Mining (each mine) will continuously be decreasing our CFPD regional stream water flows downstream! A far better scientific analysis is required to fully understand what the true impacts are (based upon the raw Mine Plans) & then spend the proper time using the best available & current science (as required by 40 CFR 230) & them prepare a list of reasonable alternatives demonstrating mine by mine area in each Watershed Basin area, by mining friction point by friction point, & then devise methods for how they can be improved. If they cannot be improved, then decide how to either (1) Fully avoid them, or (2) Best seek new nearby watershed conservation lands with a minimum 2-1 Compensatory Mitigation in kind ratio for destroying them via mining: via the new rules & planning items specified per ***the 2008 CFR 40 Chapt. 230 Aquatic Lands Compensatory Mitigaton rules, which now absolutely require a "Watershed based" systems functionality approach!***

**Other Key Item NOT CONSIDERED by the CFPD DAEIS for Cumulative Impact Analysis: Missing: Federal Agency Review**: It appears, a key required **"Essential Fish Habitat Review"** has NOT been done for any of these 6 future mines. QUESTION: where is the documentation from The National Marine Fisheries Service (NMFS) on an Essential Fish Habitat (EFH) review - for *any* of **these 6 Mines & especially when we known several mines will be operating at the same time, we know they impact downstream freshwater flows to Charlotte Harbor & the lower Peace river which the Endangered Sawfish require in its protected juvenile nursery habitat area?**

**Major DAEIS FLAW: SAWFISH – No Mention in this DAEIS**?– Yet, I pointed this out in my April 2011 Comments to you: (1) That the Small Tooth Sawfish has been on the Federal Endangered Species List since 2003 , (2) We know the Endangered/Protected Sawfish lives in Charlotte Harbor & the NMFS has placed a "special protection" status on Charlotte Harbor because (3) the freshwater downstream flows are vital to maintaining & sustaining the Sawfish juvenile nursery areas (3) and lastly: (4) I made you aware there is currently the 2nd of a 3-Year Federally funded study (Now in Phase 2) by FF&W staff of the Habits & Habitat of the Juvenile Sawfish in the northern nursery area of Charlotte Harbor, the Peace River & Myakka River via Tagging & Tracking.

**RECOMMENDATION**: Ensure the NMFS performs – in this DAEIS their required Essential Fish Habitat reviews for each of the 6-above listed Mines (based upon their coming on line & mining near ARNI streams & wetlands) & fully considers any & all annual & seasonal stream flow losses when any or all are operating –anytime & ensure their recommendation are included in the Final DEIS.

**PLEASE INCLUDE THIS VITAL SAWFISH INFORMATION (below) In the DAEIS:**

SAWISH INFO – Missing in DAEIS: *The information below is from marine fish scientists – including a State F&W group in stationed in Port Charlotte whom are actively tagging & tracking juvenile sawfish under a federal grant for the next 3 years. This information (below-is from them) and it is "proof positive" that "low or reduced" freshwater flows downstream into Charlotte Harbor will harm the many juvenile Sawfish habitats in the lower Peace River and Charlotte Harbor.*

**Federally Protected: Endangered sawfish**. Charlotte Harbor is a National Marine Fisheries identified "protected juvenile nursery area" for the Federal Listed & Endangered Sawfish & a primary nursery area for many other recreational game fish. ***The information below from these highly qualified marine biologists reveals that it is very "critical" to keep the salinity levels in the nursery areas lower than sea level salinity levels & to ensure downstream freshwater flows to Charlotte Harbor are available each year during all 4 seasons to ensure the normal habitats for sawfish remain healthy and productive.*** Whenever the CFPD flows downstream are reduced & then the sawfish fish must travel upstream to stay in the salinity zone levels they require. Yet, moving upstream as an unintended negative consequence: It reduces the size of the nursery area, because the rivers all narrow as you go upstream. Result: Any upstream habitat relocations for the sawfish provide less nursery space & more competition for food in the same smaller habitat area by many species of fish. If this negative scenario is not temporary and remedied by increased flows in a short period of time the result means both less sawfish & less recreational sport fish in the future living at all & available in Charlotte Harbor.

Simply Put: If the Corps & along with the National Marine Fisheries (NMF) folks do "not" not do their job & address in the DAEIS the "special sawfish requirement" to protect the sawfish by ensuring the downstream flows remain at a productive levels to keep the sawfish from migrating upstream by protecting the Sawfish Essential Fish Habitat (EFH) in Charlotte Harbor, then both of these Federal agencies are guilty of not following federal rules by failing to protect a Federally Listed Endangered Species, which violates the law – the Endangered Species Act. Likewise by failing to protect the sawfish in the DAEIS the value of Charlotte Harbor's future net worth economically as a productive fishery is greatly reduced which will directly result in hundreds of job losses & major tax losses Charlotte & Lee County can ill afford. This would be a giant "Lose – Lose" scenario, which must be avoided in the DAEIS by the Army Corps' proactive vigilance.

Below are comments from noted regional biologists: Dr. Peebles and Dr. Stevens, whose professional expertise in this matter is literally "beyond challenge." Likewise, their comments reinforce each other: that reduced freshwater flows in the Peace and/or Myakka Rivers will produce many significant biotic (biological-ecological) and abiotic (physical) changes in these sawfish 'hotspots' and critical nursery habitat, which will adversely impact sawfish and many other species, many which are important as food for the sawfish. It is equally important to note that these same juvenile sawfish areas are considered 'Essential Fish Habitat' (EFH) as defined by the Magnuson-Stevens (Federal) Act. (EFH refers to any habitat that is necessary to maintain the health and productivity of 'Federally Managed Species'). The Act goes on to say that no federal agency may permit or take any action that will adversely impact EFH. (The Act defines 'adverse' as "any" action).

NOTE 1: The DAEIS should state that NOAA's National Marine Fisheries Service station in St. Petersburg, FL is also the home to the Southeast US 'Essential Fish Habitat' Office. As this important Federal cooperating agency is nearby the Army Corps Team AEIS location in Tampa and they will be commenting on the AEIS and the permits, there should be no problem gaining their input on the DAEIS in a timely manner.

NOTE 2: The DAEIS also states the CFPD mines will reduce some flows to the estuary. However, It also erroneously speculates that reduced flows to the estuary will be offset by less permitted Ag (well) use. Ironically, it is well known that Ag runoff is what contributes to dry season stream flows in those areas.

**SAWFISH IMPACTS - Conclusion**: It is clear the 4 new mines in the DAEIS **will** certainly reduce downstream flows to the estuary at times in the range of 16-20% or so. In addition, these reduced downstream flows will also adversely impact both the federally protected sawfish & federally managed fish species that use Charlotte Harbor and the lowers areas of the Peace and Myakka rivers in Charlotte County as their essential juvenile nursery habitat.

NMFS Points of Contact:

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NOTE 3: A Statement from renowned fish biologist: Dr. Ernst Peebles on Sawfish Habitat: The shape of the (Charlotte Harbor) estuary (its geomorphology) affects how the water circulates, so there can be areas where the water suddenly slows down or speeds up. This affects the food web because it affects where plankton blooms can form, and the plankton blooms tend to settle out and subsidize the growth of bottom-dwelling animals that the fish feed on (provided this settlement does not become excessive, in which case it contributes to the formation of areas of low dissolved oxygen). In this way, even fish that live on the bottom are influenced by plankton blooms. The term "hot spot" can either refer to areas of high food availability or simply to areas where the listening stations receive a lot of hits from tagged fish like Phil's sawfish he is tagging & studying. Depending on the interaction between freshwater inflows and the shape of the estuary, feeding hot spots can abruptly shift from one place to another as inflows change.

**REALITY of REDUCED FLOWS to the Harbor:** *When downstream inflows are reduced, feeding hot spots will first get smaller and then shift upstream to the next area where the shape of the estuary causes seaward-moving water to slow down. The upstream hot spot is likely to be smaller than the downstream one. In extreme cases of low flow, the upstream hot spots may get so small that they cannot support much fish biomass.*

Sharks are likely to be important predators on sawfish. Of the many species of sharks in the Gulf and Charlotte Harbor, only the bull shark regularly ventures into low salinities, so the young sawfish are protected from the majority of other shark species as long as they are in low-salinity water, especially if it's also too shallow for bull sharks to swim in. In that sense, **low salinity affords a direct form of protection for young sawfish.** Otherwise, salinity may provide an indirect indication of where feeding hot spots are located.

**NOTE 5: From Dr. Stevens: Sawfish Diet**: As for their diet, we are trying hard to find out. When they are first born they appear to be a bit naïve, have a rostral sheath that covers their teeth (to protect the mom during birth), and have very small home ranges for some period. For these reasons, our working hypothesis is that they are eating benthic inverts for a short period of time, and then switching to fish at some point. We think they are eating fish because they are well adapted to do so and there is some anecdotal evidence to support this. Because this is an endangered species, we can't just cut them open to find out what they are eating nor can we pump their stomachs because of their strange mouth and throat morphology. We have to resort to using stable isotope techniques to find out about their diet. Er Phil's studies we know they eat shrimp, blue crabs, pinfish, mullet, hogfish and plankton. This works on the premise that you are what you eat. If they are eating fish, their tissue signatures will reflect that.

**SALINITY LEVELS**: You asked earlier about their abiotic affinities (e.g., salinity) and their response to variable inflow. We have been doing some work in this regard, especially in the Caloosahatchee. What we have found is that they are caught in salinities ranging 18-24 ppt (from an acoustic study occurring during a wet period) or maybe even 18-30 ppt (from a study occurring during a longer record that incorporated a dry period). They are also caught in very shallow water (<1m) and in relatively high DOs (>6.0 mg/l). In the Caloosahatchee, we do see responses to changes in salinity (salinity being a proxy for varying inflow and all of the associated changes that go with that). If it's been dry a while (say for about three months), then they will relocate upriver. If it's been wet, they will relocate downriver. If the flows are colossal, like after a tropical storm, we have seen immediate movement downstream. I used the term 'relocate' above on purpose. When looking at individual tracks of sawfish, we see that when conditions change enough they relocate from one hotspot to another. In other words, they do not spend time in between hotspots, but make rather abrupt movements. This is strong evidence for the idea of 'hotspots' along the environmental gradients and we've got to figure out what makes the hotspots hot.

**SAWFISH TAGGING MOVEMENTS**: As for movements in the Peace, we've only been tracking sawfish movements there for 2 years and we haven't analyzed all the data. The way this tracking works is that you tag a fish with a transmitter and then to hear where the fish is going you need an array of listening stations. We have about 30 listening stations in the Caloosahatchee that have been there for about 8 years and now we have about 30 in the Peace and upper harbor. What I can tell you is that the vast majority of our sawfish captures (using nets) has been between 41 and 75 on the north side of the river, just north of the Harbor. The acoustic data will be able to tell us if this is one big hotspot or if the fish are relocating between several. There is one important difference to point out about the Peace. You'll note that in Florida, rivers are typically narrow and deep, and then very

abruptly become wide and shallow near the mouth. The wide, shallow area is pretty important for some fishes and has the potential to function differently than the narrow areas further upriver. In the Peace, the river mouth is relatively small compared to the Caloosahatchee. A fish in the Caloosahatchee can move up and down a long, shallow tube that extends 30 km. This is a convenient feature of the Caloosahatchee that probably buffers the effects of varying inflow to a degree. In the Peace, this stretch is basically the distance between 41 and 75. So, if flows there get really low, fish moving upriver will run out of the wide, shallow river morphology more quickly. They will have to either: stay and deal with higher salinities (low salinity is considered a refuge from predation), move upriver into more steeply sloping banks (shallow water is a refuge from predation), or move upriver and then into shallow backwater oxbows and such. When they move farther up river in narrower areas the nursery gets smaller and produces less fish. So, this is something very important to consider in situations where reductions in downstream inflow may occur; a subject that Dr. Peebles has validated in publications several times.

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**SUGGESTION: BETTER "MITIGATION CONCEPTS" for DAEIS - NOT MENTIONED**?
As you may or may not be aware, the recently CWA permitted Mosaic: South Ft Meade Mine Extension Project had been on hold for more than a year during a lawsuit (of which neither I nor either of my Environmental Groups: Protect Our Watersheds (POW) or Lemon Bay Conservancy (LBC) were a party to). Yet, upon learning of the basic "settlement terms" as discussed in the attached Sierra Club & FDEP news articles (attached to this Document- dated , I believe we now have the elements for a new "Mitigation of Wetlands" strategy which can be a win-win for all parties involved & at the same time follow the new 2008 Federal 40 CFR Part 230 law (specifically Para 230.91) dealing with Compensatory Mitigation of Losses of Aquatic Resources. Press Release positive summary below:

**Environmental Groups Settle South Fort Meade Extension Lawsuit with Mosaic**
**Press Release: Friday, February 24, 2012 2:00 am,** by Doug Hayes, Sierra Club

ST. PETERSBURG – Sierra Club Florida, People for Protecting Peace River (3PR) and ManaSota-88 announced today that they have entered into a settlement with The Mosaic Company to resolve their Federal Court lawsuit challenging Mosaic's South Fort Meade Extension (SFM extension) phosphate mine in Hardee County, Florida. The US Corps of Engineers permit for the mine allowed more than 7,000 acres of phosphate strip mining in the Peace River watershed. The plaintiffs' lawsuit was filed in June 2010 in the United States District Court in Jacksonville and charged that the Corps permit was issued in violation of the National Environmental Policy Act and the Clean Water Act. The Court issued a preliminary injunction preventing mining under the challenged permit in July, 2011. The settlement will allow mining to proceed at the SFM extension. In return there will be

major changes in the mining plan providing significant additional protections for the Peace River watershed. Among them:

- Significantly: Mosaic purchased the Peaceful Horse Ranch (PHR), a property of some 4400 acres at the confluence of the Peace River and Horse Creek, with nearly 8 miles of the Peace River frontage and nearly 6 miles of Horse Creek frontage, including largely pristine wetlands. PHR, which has some 3500 acres of wetlands, is on the State's Florida Forever list as a property which is desirable for protection by the state. It is vital to the region's water supply, water quality, flood protection, and management of natural system. It has been identified as central to the strategy of providing connected conservation areas as well as wildlife corridors along the Peace River for the Florida Panther.
- Additional mitigation for the wetlands lost to mining in the challenged permit Mosaic will donate PHR to the state for a state park, along with $2 million to cover startup and initial maintenance costs. This acquisition and donation will make PHR a destination for hiking, boating and wildlife viewing. It will provide long term protection to the Peace River watershed and the Charlotte Harbor estuary and will supplement the Florida Forever protection program which has been hobbled by lack of funding.

Link to Florida DEP's description of Peaceful Horse Ranch:
http://**www.dep.state.fl.us/lands/FFAnnual/B_PeacefulHorseRch.pdf**

- At the SFM extension mine, mining will be set back from the Peace River and onsite perennial streams, creating additional buffers of approximately 42 acres.
- An additional 7 bayhead wetlands and buffers, comprising over 70 acres, will be removed from the mine plan and preserved in a Conservation Easement. Bayheads are key to the ecosystem and are very difficult, if not impossible to restore or recreate.
- Some 400 acres of land between the southwest mine border and the Peace River will be placed into Conservation Easement, providing additional protection for the river.
- An area northwest of the site, and bordering the west side of the Peace will be placed into Conservation Easement.
- Two onsite streams will be enhanced with wetland treatment areas.
- Mosaic will enter into a long term water monitoring program, and an independent panel will be created to review Mosaic's monitoring and restoration over time and to make recommendations where desirable.

SUMMARY: The Peace River Watershed provides drinking water for hundreds of thousands of Floridians and the State of Florida, the EPA and Congress have designated the Watershed, and the downstream Charlotte Harbor estuary, as a Priority Watershed, an Aquatic Resource of National Importance and an "estuary of national significance." It is home to endangered and threatened wildlife and fish and depends on freshwater flows from the Peace River.

- Bev Griffiths of the Sierra Club Florida Phosphate Committee said, "This is a victory for everyone in Florida who values protecting the Peace River and increasing Florida's State Park System. We are pleased to be able to come to an working win-win agreement with Mosaic on these matters.

- Our settlement requests were based on the items which USEPA had identified as desirable prior to issuance of the Corps permit. We are very pleased to be able to implement these provisions in our settlement agreement."
- Percy Angelo of the Sierra Club committee added, "Under this agreement some 5000 additional acres of land will be preserved and put into Conservation Easement along the Peace River and Horse Creek. "
- Dennis Mader of 3PR added, "Our lawsuit argued that the SFM extension permit should not have been issued without an environmental impact statement (EIS) under NEPA and other review under the Clean Water Act. It was unfortunate that we were required to file suit to implement these statutory protections, but it is positive that Mosaic has agreed to adopt these very significant protections and we look forward to the addition of the PHR to our state park system. The settlement will be final when approved by the District Court & the lawsuit & pending appeals have been dismissed by: District Court & Appellate Court.

**What is most significant that this recent "Settlement Model" is precisely what the 2008 Federal Rules say how the "Watershed Approach" to Wetlands Mitigation should be handled.** *To include 5 years of Monitoring and Inspection by a new Citizen Scientific Wetlands Mitigation Oversight Group (County, State &Federal Agency appointed) and then inspected annually (Including EPA staff & ACE staff) prior to Mitigation wetlands final buffering, conservation easement, wildlife habitat, or wildlife corridor mitigation reclamation acceptance.* ***This "new concept" which is EPA approved and watershed systems and functionality maintained based, appears to be a very proactive and positive results based, scientifically validated – viable approach, well worth considering and certainly mentioning (NOW OMITTED?) in the next revised Supplemental Draft AEIS.***

**MAJOR DATA FLAW: CFPD Gyp Stack "Toxic Waste Issues - Years after mining ceased WHICH HAVE BEEN OMITTED in this DAEIS?**

**MOSIAC:** April 26, 2012, FDEP approved a modification to the P-21 Wetland Site, an inactive gypsum disposal area near the abandoned **Noralyn Phosphia Mine** in CFPD - Polk County, FL. The modification was mandated, due to groundwater contamination discovered at the P-21 wetland area associated with toxic gypsum disposal. The modification resulted in ***permanent removal (severing) of 9.1 Wetland acres from "the waters of the State".*** Mosaic agreed to ***mitigation on a 2-1 basis and provided a minimum of 18 acres of Conservation Easement*** on Wetland acres connected to the Alfia River Basin. The closure activities of the Green Bay Chemicals Complex include the P-21 wetlands. All ongoing closure activities at the site remain the responsibility of Mosaic.

**CFI:** August 10, 2010, CFI agreed to spend $12 Million to settle a Federal Complaint of improper waste handling at a Chemical Gypsum Plant in Plant City, FL. The EPA & FDP found between Dec. 2004 & Jan. 2005 improper waste handling created a $700,000 civil penalty & they had to post a $163.5 Million Bond.

**POINT: These 2 recent incidents cited above are "proof positive" that GYPSTACK TOXIC Waste Issues survive far longer than the plants operational lifespan.**

**RECOMMENDATION FOR – New Revised: Supplemental CFPD DAEIS:**
**-All Gypstack Sites currently located in the CFPD and not Closed & accepted by the Feds should be circled in RED with a 10 mile buffer and noted at possible future Toxic waste sites.**
**-Any new proposed Fertilizer Chemical Plants for any of the 6 future Phosphate Mines in the CFPD also need to post extremely large BONDS and be subject to stringent monitoring.**

**RECOMMEND: The CHNEP Provide an "Analysis" of the present health of Charlotte Harbor and provide a list of: Key "EnvironmentalHealth Indicators"& best data bases to use.**
The Policy Committee of the Charlotte Harbor NEP, is constantly working to update and improve the protection of the health of Charlotte Harbor. CHNEP should be included in a Technical Advisory Group to the DAEIS team (along with UEPA, USGS, FF&W, NMFS) to provide a Charlotte Harbor Heath "*Environmental Health Indicators*" List with an end goal of constantly striving to protect the health and sustainability of all protected and vital fish, their nursery areas and plant ecosystems. The list will most certainly include: (1) Water Quality, (2) Fish & Wildlife Habitat , & (3) Hydrologic & Salinity Alterations. Their annual State of the Estuary Report should also be included as an attachment to the DAEIS, along with any relevant Harbor based habitat improvement scientific studies over the past 10 years. Likewise, the FF&W Port Charlotte field station based Endangered Sawfish: Federally Funded Juvenile Sawfish Nursery Habitat, Tagging & Tracking study program, focusing the upper Charlotte Harbor area and the Peace River & Myakka River (Being conducted by Dr. Stevens as Cited previously in my Comments) should also be included in the new SDAEIS.

VALUE OF CHARLOTTE HARBOR: The health of Charlotte Harbor is invaluable to this entire region and most importantly - the *regional community's survival* and its ECONOMY & its JOBS base. The DAEIS has a responsibility to properly analyze via NEPA rules to determine how much upstream Posphate Mining, at which locations and times, could seriously endanger the region's Horse Creek based water supply & Charlotte Harbors fishery habitat, upon which our economy is based. The protection of Charlotte Harbor is an EPA priority and is being constantly studied via the CHNEP. The dollar benefit of Charlotte Harbor's positive health and sustainability is far more important that mining a few extra bags of phosphate. Just the Annual Income from Tarpon Fishing via outside area residents has been recorded at about $110 million economic impact annually. Yet the tarpon is just one of a dozen popular game fish which currently thrive in the Harbor. This also does not include the vibrant boating, kayaking, ecotourism and photography. Clearly, Sarasota, Charlotte, Polk, Manatee, & Lee Counties can ill afford to lose a "healthy" Charlotte Harbor and it plethora of positive economic impacts, the commercial growth of recreational tourism dollars and citizen pride. The large impact on the ECONOMIC Value of "Cumulative Impacts" to a "damaged" Charlotte Harbor (if the studies reveal any *negative* impacts) -via the 6 Future Mines Group (when several will operate at the same times in the same watershed) Impact (92,000 acres to be mined in the center of our fragile upstream water flows natural water supply to the Harbor until 2070) – must all be included in any NEPA acceptable DAEIS.

Inclusion of the Cumulative Impacts of all 6 Mines is supported by NEPA: "NEPA documents should consider a broad range of activities & patterns of environmental degradation that are occurring in the vicinity of the project." Actions relating to the project would include:

- Probability of actions (all similar mines in same area) affecting the same environmental system, especially systems that are susceptible to development pressures (like streams & wetlands).
- Likelihood that the project will lead to a wide range of effects, or a number of associated projects. The effects of other projects are similar to those of the project under review.

- All 6 phosphate mines are clearly similar & any all future CFPD mines planned should also be included if they will require CWA permits.

- This DAEIS Fails to note or consider "the threshold beyond which – Cumulative effects" significantly degrade the regional ecosystem. Yet, NEPA has an easy solution to the difficult question: How to determine – The threshold beyond which "cumulative effects" significantly degrade a resource, ecosystem, or human community. Quote: "Without a definite threshold, the NEPA practitioner should compare: the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant. These desired conditions can best be defined by the cooperative efforts of agency officials, project proponents, environmental analysts, non-governmental organizations, and the public through the NEPA process. (1999-EPA document –In Notebook).
  **The Key Question the CFPD DAEIS Fails to Answer**: *Do the cumulative effects of all 6 known and planned future phosphate mines – on the regional ecosystem and the Charlotte Harbor watershed - match & comply with stated community, regional, state & federal goals – As is presently stated in this DAEIS?* ***The ANSWER: NO!***

- **Lack of a Valid - Environmentally Preferred Alternative** - Per: Fed. Register. Vol 46, No. 55, Mar 23, 1981, 40 most asked questions on CEQ NEPA regulations: Section 150.2 in cases where an EIS has been prepared: "The **Lead Agency must ensure that the preferred alternative – must be *objectively prepared*** and ***not slanted to support the choice of the agency's preferred alternative*** over other reasonable and feasible alternatives. The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed in NEPA Sect. 101. Ordinarily, this means *the alternative that causes the least damage to the biological and physical environment and meets the basic gals of the proponent's project. It also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.*" Lastly: "if significant impacts are associated with the proposal, *an environmentally preferred alternative should be suggested or a new alternative propsed. The suggested alternative should be both "reasonable" and "feasible."* In this context, *such an alternative is one that is practical in the technical, economic and social sense, even if the alternative in outside the jurisdiction of the lead agency."* Clearly, the present CFPD DAEIS has an Industry slanted, biased, preferred alternative, which is not reasonable - as it currently allows harmful impacts to a large % of wetlands (nearly 50%) which might be avoided. It does not make social sense - as it drops stream flows at times to perilously low levels, which directly impacts the headwater systems vital to the Harbor's health. It is Not an alternative – which best protects, preserves and enhances the region's natural resources. A better Environmentally Preferred Alternative or NEW Alternative is needed, which clearly meets all of these important – NEPA criteria.

- **Lack of valid scientific analysis. Presently the flawed DAEIS omits valuable scientific studies & fails to use the best current and available scientific data bases (as Lee County points out) to best identify all wetlands (pre-mining) & all aquifer levels (pre-mining) as suggested by the USGS to preclude major damaging Regional Impacts to the Charlotte Harbor watershed (SEE Synopsis of USGS Fouad & Lee study of Charlie Creek in a watershed Basin in the CFPD using LIDAR).** Per Sect. 105.14 of NEPA: "The environmental consequences section should be devoted to a scientific analysis of the direct and indirect environmental effects of the proposed action and of each of the alternatives. Yet, the omission of available CHNEP scientific data in the Ona DEIS which are vital "Health of the Harbor" indicators is a clear violation of NOT using all available scientific data.

NOTE: Mosaic touts the use of LIDAR as a wetlands mapping tool of choice in the recent S. Ft Meade Mine planning (See: Mosaic Press release attached) and Mosaic reports it will again be used in their Wingate Mine Wetlands planning. **Clearly, LIDAR is the proven, recommended, best scientific available tool for wetlands mapping: SWFWMD has it and USGS can work with construct the best Wetland mapping for all of the 6 "FUTURE" CFPD Mines in the DAEIS!**

- **Lack of ACOE evaluating, properly and independently, the contractor prepared environmental assessment**. Sec. 1506.5(b) of NEPA allows agencies to authorize preparation of environmental assessments (EIS) by applicants. Yet, "**the agency (ACE) must still evaluate independently the environmental issues and take responsibility of the environmental assessment**." Further, "to ensure that environmental effects of a proposed action are fairly assessed, the *probability* of the *mitigation measures being implemented* must also be discussed." **The probability of all mitigation measures being implemented Was NOT addressed in the CFPD DAEIS**? Likewise, "If there are gaps relevant information or scientific uncertainty-relating to an agency's evaluation of *significant adverse impacts on the human environment*, an agency MUST make clear that such information is lacking or that the uncertainty exists. At a minimum, NEPA requires that all Impact Environmental Statements (EIS's) contain information to alert the public to *all* known *possible* environmental effects of an agency action." **By not including all 6-Known Phosphate Mines and by not including the requisite full Cumulative Impacts analysis – it would appear that at present CFPD DAEIS is fatally flawed the ACOE has professionally failed to meet their mandated NEPA responsibilities.**

**CONCLUSION**: There exist adequate NEPA and EPA environmental *rules* written to enable the ACOE to professionally and equitably deal with and prepare a proper "AREA WIDE" Environmental Impact Analysis for this next major phase (next 50 to 70 years) of intense Phosphate Mining in 92,000 cares in the Southern CFPD our Southwest Florida 7-county impacted region. A properly prepared DAEIS will reveal how mining opportunities can be best be accomplished in the South Bone Valley area and at the same time strike a reasonable balance and fully protect the environment.

*However, it seems clear (at this time based upon this FLAWED DAEIS) that the two industry proponents (Mosaic and CFI) apparently will not step up to meet the "minimum" requirements of NEPA rules. Likewise, the ACOE has not stepped up to properly fulfill their role as "Lead Federal Agency" in the EIS process. This Lead role for the ACE demands: (1)They immediately begin curing their many data omissions & fix many identified DAEIS flaws, & then take whatever time is needed to (2) Prepare an urgently needed new: "Supplemental" Draft CFPD Area-Wide EIS (SDAEIS) which follows all NEPA rules, includes all 6 of the known Future Mines in the CFPD, states each and all of the identified Cumulative Impacts for each Mine, by each Watershed, states any potential array of negative impacts to each CFPD Land ecosystem area and each aquatics system and habitat area to attain the best protections of ARNI streams & wetlands and Charlotte Harbor. Then the ACE must also provide in the new SDAEIS a new list of reasonable (science based) Alternative Options and a new Preferred Alternative that avoids all significant local and regional environmental degradation to land and aquatic resources and meets most of the major objectives of the proponents projects.*

Thank you for allowing me to contribute to this extremely important regional DAEIS study.
I trust my comments were helpful to your Team.

Sincerely,

S.J. Cooper

NOTE: SEE Page 20 for List of 7 Attachments

LIST of 7 Attachments to my Comments:

1. 3/10/210 - EPA Instructions to ACE on Area Wide Study (4 pgs)
2. 2102 FDEP latest Mandatory Mines Rate of Recovery List
3. CFI: 8/2010 - Gypstack fine & $12 Million Toxic Waste Settlement
4. Mosaic: 4/2012 – Loss of 9 Toxic Wetland Acres due to Gypstack
5. Mosaic Press Release on Value of using LIDAR for wetland mapping for S. Ft Meade Mine & Wingate Mine in CFPD
6. USGS: 2011 Presentation on Value of LIDAR for Wetlands Mapping in Charlie Creek Basin in CFPD

Submission number 552

# SEMINOLE TRIBE OF FLORIDA
# TRIBAL HISTORIC PRESERVATION OFFICE

TRIBAL HISTORIC
PRESERVATION OFFICE

SEMINOLE TRIBE OF FLORIDA
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John Fellows
U.S. Army Corps of Engineers
Jacksonville District Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610

**THPO#**: 008008

July 6, 2012

**Subject**: Assessment of Effects of the Proposed Jacksonville District COE Continued Phosphate Mining in the Central Florida Phosphate District, Hardee, Manatee, and DeSoto Counties, Florida

Dear Mr. Fellows,

The Tribal Historic Preservation Office of the Seminole Tribe of Florida (STOF-THPO) has reviewed the Corps of Engineers Areawide Environmental Impact Statement (AEIS) for the aforementioned project received on June 12, 2012. Due to the high number of cultural resources present within the vicinity of the proposed mine locations, the STOF-THPO requests continuous consultation throughout the development of the Final AEIS. The STOF-THPO has provided maps and supporting documentation regarding sites of interest located within the proposed mining areas to the USACE Regulatory Archaeologist, David Pugh, as well as the project manager. After reading and reviewing the Draft AEIS, the STOF-THPO has several issues of concern that were not addressed or resolved. Primarily, the portion of the un-surveyed area of the DeSoto Mine, as well as the avoidance of several sites that contain human remains which are located throughout the DeSoto and Ona Mine Areas (see map for details).

Additionally, there are several sites of which the eligibility status regarding the National Register of Historic Places has not been ascertained. This also needs to be addressed through additional survey work and consultation with the STOF-THPO. The STOF-THPO is anxious to review the Final AEIS and looks forward to providing comments regarding the aforementioned issues.

We thank you for notification of this proposed project. Please reference ***THPO-008008*** in any future documentation about this project.

Sincerely,

Paul N. Backhouse, Ph.D.
Acting Tribal Historic Preservation Officer
Seminole Tribe of Florida

ETY:am:pb

***Direct routine inquiries to:***

Anne Mullins,
Compliance Review Supervisor
annemullins@semtribe.com

Submission number 553
(Attachments Available)

**From**: Marvin Medintz [mailto:medintzm@yahoo.com]
**Sent**: Friday, July 27, 2012 05:14 AM
**To**: Fellows, John P SAJ; Steve Gong <Steve.Gong@CH2M.com>
**Cc**: Powell, Duncan EPA@SAD; Able, Tony EPA@SAD; David Pritchett <Pritchett.DavidA@epamail.epa.gov>; Jennifer Derby <derby.jennifer@epa.gov>; gagliano.paul@epa.gov <gagliano.paul@epa.gov>; walsh.patrick@epa.gov <walsh.patrick@epa.gov>; massey.matt@epa.gov <massey.matt@epa.gov>; giattina.james@epa.gov <giattina.james@epa.gov>; Richard Weisskoff <rwecon@gate.net>
**Subject**: Richard Weisskoff comments on Economics Sections of DAEIS for Phosphate

Good morning. On July 25 I emailed the Environmental and Community Groups' Comments on the Draft Areawide EIS for Phosphate. As part of those comments we incorporated the comments of Dr. Richard Weisskoff on the Economics sections of the document. A copy of Dr. Weisskoff's comments, and supporting spreadsheet, is being filed separately for your convenience. In addition to the economic modeling in the DAEIS, which he finds very deficient, Dr. Weisskoff also addresses the significance of US phosphate and fertilizer in the world market.

Percy Angelo

**Report to the Sierra Club Draft 1 July 19, 2012 part I**

**By Richard Weisskoff, Professor, Dept of International Studies, University of Miami**

## Introduction

Prof. Weisskoff is a research economist who computed the economic impact of Everglades Restoration for the Army Corps' $13 billion project, called the "Restudy" which later became known as the "Plan." He has since applied IMPLAN to 20 different environmental and mining projects in Florida, including studies in Hardee, Manatee, DeSoto, Lee, Levy, Miami-Dade, Broward, and Indian River counties.

His book, Economics of Everglades Restoration: Missing Pieces in the Future of South Florida (2005), creates a hybrid IMPLAN-REMI model in order to forecast population, water, and land needs in 13 South Florida counties. He customized the model with additional detailed data for the "missing pieces" which are agriculture, tourism, investment, and the restoration funding itself.

His comments on the AEIS are based on his work in Hardee, DeSoto, and Manatee counties and on his latest study, "A Cluster Analysis of Hardee County, Florida," May 23, 2012.

## Part I International Considerations

The economic analysis omits consideration of the international aspects of the Florida phosphate industry, which I find to be much greater than commonly thought. The conventional impression is that Florida phosphates are used primarily by US farmers, with some sales abroad. But the statistics reveal the opposite: the Florida industry is primarily an export platform for world sales of fertilizers made in Florida from primarily Florida (and increasingly imported) rock and from currently inexpensive ammonia and sulfuric acid. The waste material left in the clay pits and in the phosphogypsum stacks, plus the mined-out, degraded, and "reclaimed" farm land is left in Florida. A near-majority fertilizer tonnage is exported.

Analysis of data from USGS and the International Fertilizer Association (IFA) reveals a picture of the changing US dominance in the international market for the major raw material and sale of the fertilizer products (See Table 1). Since Florida is the major source and supplier within the US, our discussion of the "US" exports and "US" imports refers almost entirely to the Florida-based industry. The other producers, located in North Carolina, Wyoming, Utah, Montana, and Louisiana, are oriented more entirely to the US domestic market.[1]

The US has 1.2% of the world phosphate rock reserves[2] but produced 14.9% of the world phosphate rock in 2010, having fallen from 25.3% in 2000 due to declining US output and the

[1] It is possible to check the "exports" from Tampa for these fertilizers and the "imports" of phosphate rock into Tampa. That would ascertain the degree to which Florida product goes abroad (from US Census of Trade, available on a Port basis) or goes on barges up the Mississippi River (Army Corps Waterways Census).

[2] Estimated in January 2012 by USGS (Table 1, line 1a)

increase in the output of other countries (see line 2a, cols 1-2 for percentages; and cols. 4-7 for absolute nutrient-equivalent tonnages.)

But phosphate rock is only the first stage of the process. With the addition of sulfuric acid to make phosphoric acid and then ammonia, two major phosphate fertilizers, DAP and MAP, are manufactured. The US has retained a dominant share of more-or-less a quarter of the world's production of these three products (lines 3a through 6b, col. 2, for 2010), despite the fast-growing volumes in the global economy outside the US (cols 5 & 7 for MAP and DAP production).

In exports, however, the role of the US is even more dominant . 31.7% of MAP (in nutrient content), 26.1% of DAP, and 27.6% of combined MAP and DAP exports worldwide originate in the US. (See lines 7-10, col. 2.) Only 9.1% of world phosphoric acid exports are from the US. (Line 11a.) The acid produced in the US is retained here and converted to fertilizer for export.

The US exports no rock *per se* (line14), but a number of fertilizer plants in Louisiana and Texas do import rock from foreign sources and, beginning in 2010 and 2011, large scale imports started arriving from Morocco and from the newly-opened Peruvian mine jointly owned by Mosaic. In 2010, 9.4% of world rock trade went to the US (up from 7% a decade ago, see line 12a). By 2010, imports accounted for 11% of US rock consumption, almost double the 5.8% share in 2000. (See line 13a.) Thus, we have the US industry relying on domestic rock reserves and on marginal but growing tonnage of imported rock.

To what use is the rock put? To fertilizer ....for export! By 2011, the US still exported a third of its total MAP production, down from 46% a decade earlier, and almost 60% of its DAP production, down from 62% in 2000. (See lines 14-15, cols. 1-2). Almost half (47.6%) of the combined MAP-DAP nutrient tonnage produced in the US was exported, down from a 56.9% share in 2000. (See line 17, cols. 1-2).

In short, the Florida phosphate industry is export-oriented but built on a base of historically-owned, extensive holdings of prime Florida farmland passed down and consolidated into two surviving companies taking advantage of the favorable physical infrastructure – high voltage power lines, railways and roads and the world's largest bulk-handling fertilizer port (Tampa) nearby, Now are all aided by the recent fall in ammonia prices. In addition, the Florida industry is aided by a long-standing practice of not being charged for the water it pulls up from the ground, other than the energy to pump it up. This puts it at a great advantage in comparison to the water-scarce regions of the western states, and the mines located in the Moroccan and Peruvian deserts.

Thus, the Florida advantage is due to low cost and historical location, access to ocean transportation, cheap energy, negligible taxes, high quality rock, low overburden, plentiful and virtually free water, and minimal land reclamation costs. The real cost to Florida society is the loss of first class farm land, depletion of the aquifer, the accumulation of toxic waste, and the potential destruction of the downstream water supply.

Many other counties have reserves of phosphate rock and are increasing their fertilizer-producing capacity, but the tight world market for fertilizer is and will continue, driven by the increasing demand for bio-fuels and the rising demand for grain-intensive, high-income foods (dairy,

meat, eggs, chicken), all of which require the "intensification" of crops (read: "more fertilizer") on existing crop-lands.

In the next section, I shall examine the use of the economic forecasting tool, IMPLAN in the AEIS.

**Part II The AEIS Economic Model**

The following remarks refer to three different sources.

(a) The "AEIS" is the Area-wide Environmental Impact Statement which itself uses the 2009 IMPLAN model for each county. This Army Corps study will be referred to as "AEIS-IMPLAN."

(b) Prof. Weisskoff had purchased the original data for all Florida counties for 2009 from IMPLAN. This allows him to replicate computations on the county level and undertake his own research to verify employment and output characteristics of the different sectors in the relevant counties. His results and independent observations based on these original IMPLAN data will be referred to as "Original IMPLAN Model, 2009."

(c) Third, the two independent feasibility studies, one of the Ona Mine by Grace Johns, 2003 & 2005 and one of the South Ft. Meade Extension, by ECONorthwest, 2008, provide original estimates for the costs and benefits of each of the those mines. Both studies use the IMPLAN model to estimate the economic impacts of the new mine, but the latter study omits the computation of the impact the losses of farm activity displaced by mining.

(d) REMI (Regional Economic Modeling, Inc) is an alternative, or more accurately, a complementary model that is "made to order" from www.remi.com for specified counties or regions. But REMI is designed as a "growth model" whereas IMPLAN is a single snapshot of a county. REMI is movie-picture which estimates the equations and relationships on the basis of historical data. These equations are then used to forecast 35 years into the future under different conditions and scenarios, such as the addition of a new sector and the reduction of an existing sector. Whereas the IMPLAN system costs as little as $350 per county, the REMI model, which models the ENTIRE regional economy, including labor, migration, population, savings, investment, and many macro-economic variables, can cost tens of thousands of dollars for single year license for several county models. For reasons of economy, then, most feasibility studies prefer IMPLAN for a single-year estimate. They then adapt this estimate for Year 1 to all the later years in the study.

The use of IMPLAN to make projections without correcting for many important factors is totally inappropriate for a number of reasons:

1) IMPLAN is a one-year cross-section of each county's economy, for example, 2009 for year 1. But the AEIS-IMPLAN study applies the same "model," this, the same "frozen" production scheme for each county for all the years through Year 50, except for changes

in mining and some agricultural sectors. It then computes the output, discounts the future years back to the present, and compares the "with" and "without" project alternatives.

But the economy will not be FROZEN in time for the fifty years! The technical coefficients – that is, the connection between the sectors and the magnitudes of the inputs for each sector – are changing. We can estimate the annual rates of change of these variables, and we then should apply them to the growing or "aging" economy. To FREEZE the Year 1 economy from 2012 to 2062 (50 years) tends to undervalue the dynamic sectors which is the case of agriculture and favors the more technologically-fixed and capital-intensive sectors, like mining.

2) Agriculture, according to the 2002 and 2007 US Agricultural Censuses, increased in value by 40% in Hardee County over this period in terms of the sales of crops and livestock despite a loss of 19% of acreage. How is it possible that fewer farms and less acreage created more value? The answer lies in higher farm prices, greater productivity and a shift to the more lucrative activities. Thus, the AEIS-IMPLAN model, which "froze" the agricultural sectors and their technologies, should have, in fact, modified them to allow for these dynamic changes that are already in motion.

   AEIS-IMPLAN projects stability and then a DECLINE in agriculture over time in the base case scenarios, and this is inconsistent with what we know is likely to occur. The USDA publishes "Outlooks" for all agricultural branches, and these should have been consulted (See Weisskoff, Economics of Everglades Restoration, Chapter 12, for details on how this was done.) The US Census publishes county accounts and projections of income in the Regional Economic Information System (REIS) for farm income. AEIS-IMPLAN could have used these to estimate the indirect inputs into farm sectors, such as citrus, livestock, and vegetables and also to estimate the rate of growth of output & income. Once applied to IMPLAN, this would have added flexibility and reality to an otherwise "frozen" AEIS-IMPLAN through time.

3) All this is by way of explaining how AEIS-IMPLAN minimizes or omits the losses to the total farm sector. The text of the AEIS-IMPLAN study but not the growth of these sectors that was already occurring. Most of the "mined" land makes its reappearance later as reclaimed land, and then is put back into full production in later years.

4) Another problem: the AEIS-IMPLAN lists "row crops" but there are no row crops in Hardee County, for example. Perhaps the authors meant "vegetables & melons" which is an important sector in Hardee County and the other counties in the region.

5) We also know that all the land taken into mining cannot possibly be "restored" due to the clay pits and lakes that will be carved out of the mined land. One estimate is that 25% of the land will not be available for reclamation. But in the Appendix F Tables, land in agriculture (pasture, row cops, and citrus) is given as 84,200 acres in Hardee county to be mined with the full alternative of 7 mines, and over the years 81,100 acres will be reclaimed, a loss of only 3.6%. Nor do we know the QUALITY and PRODUCTIVENESS of the reclaimed land.

6) In summary, the true "With" and "Without" scenarios should be between the GROWING agricultural economy without any new mines, and the LOSSES to the County from the removal of that growth in farm activity plus the GAINS from the new mines.

7) Moreover, the agricultural sectors are undervalued in the AEIS-IMPLAN because they are partial and not comprehensive. The agricultural "cluster" is not just the isolated sectors of pasture, vegetables, and citrus. Bigger than both and the biggest single sector in the county in Original-IMPLAN is Sector 19, "Services to Agriculture," with 2,026 jobs in 2009, compared to the 208 jobs in Mining. The "Agriculture cluster" which includes ag services and all the ag branches, totals 3,221 jobs, compared to the mining cluster's 211 jobs.

8) So when 82,000 acres are taken out of agriculture, it is not only a reduction of the direct employment as computed by acreage and direct income generated by farming, but also the indirect losses of income and jobs in the "cluster."

   "Direct" impacts refer to the spending on the mine or farm. "Indirect" impacts mean the material and labor inputs that need to be purchased to make the "direct" effective, such a fuel, fertilizer, pesticides, spare parts, machinery use, and labor. "Induced" impacts trace the spending of the all the workers from the direct and indirect impacts on food, housing, clothing, etc., and the income and jobs that *their* spending leads to.

   In the IMPLAN scheme, all these impacts, both negative and positive, take place instantly and simultaneously in the year 1, since it is a single year model. In reality, many of these "linkages" take years to play out, if at all, as much of the "spending" leaves the county and has no effect whatsoever.

9) The newest mining technologies also are larger-scale, more automated, and more capital-intensive, leading to fewer jobs and more machinery in the future. The inputs –fuel, chemicals, machinery repair, pipes, pump parts, etc.—come from outside the county and the profits (which are two-thirds the value added) are sent to the home office and reinvested elsewhere (for example, to purchase the new mine in Peru). Only a third of the value added goes to labor, and if the workers live in Hardee County, then it is their spending that will have the "induced" impact. The share of the severance taxes remitted by the companies to the state and then back to the county government will also exert impact, but this amounts to 2.4% of the current phosphate rock price. Thus, the share of value-added and even of labor income that will remain in Hardee County as a result of increased mining remains unknown.

10) Not so with agriculture. Both workers and owners live in the county and more of their value is recycled into local business. This all will disappear when large scale mining clears agriculture, leaving as ghost-towns and historic relics of the old main streets, such as is seen now in Bowling Green, Ft. Meade, and possibly Wauchula in the future, as the permitted mine extend right to the northern and western edges of the town.

11) Prof. Weisskoff's own economic studies using the Original IMPLAN 2009 data find that the output multiplier for agricultural output is 1.254, compared to the mining output multiplier of 1.176, both of which include direct, indirect, and induced effects. The output multiplier is the mathematical summary of the impact of spending x-dollars on a sector, for example, citrus: $1,000 direct spending on the Agricultural Cluster, results in $1,254 output: $1,000 for the original spending, and $254 from the indirect (i.e. inputs like fertilizers) and induced impacts (the spending of the fertilizer workers). Mining has fewer linkages, fewer inputs, less wages to be spend locally and more profits that leave the region. Mining's multiplier is 1.176. Thus, Agriculture's output multiplier is 6.6% greater than that of mining.

    But a million dollars of output in one industry may create more jobs than a million dollars output in another. This "job-multiplier" then is a measure of the labor-intensity of a sector, and the difference between employment multipliers is even greater than the difference between output multipliers. For example, the ag employment multiplier is 12.5 jobs per million dollars, and the mining multiplier is 4.60 jobs per million dollars. The ag job multiplier is 2.2 times higher than the mining multiplier. And this does not take account of of the part-time and seasonal works that prepare the land and harvest the crops, and, for the most part, spend their earnings locally on food, rent, and necessities, and remit another share out of the country.

12) The correct understanding of these sectors can be summarized as follows: mining creates greater value, especially in terms of output and property value (i.e. profits), while agriculture creates both labor value (in ag services) and property value (profits) in farming and many more jobs. And this is not counting seasonal and part-time farm work, the earnings of which are split between local spending and remittances sent abroad by migrants.

13) The correct procedure for a regional economic analysis is to apply a regional economic model of the counties in which THE ENTIRE ECONOMY IS GROWING IN ITS HISTORIC TRAJECTORY, and not "frozen" in year one by a set of arbitrary assumptions. Then the correct mining employment must be calculated as the acreage is removed from agricultural production. The Ona mine study (Grace Johns, 2003 and 2005) commissioned by the Hardee County Commissioners, estimated a net gain of only 71 jobs if a mine plus a beneficiation plant were built and a net loss of 111 jobs if mining is undertaken without a beneficiation plant. The South Ft. Meade Extension Economic Study done for Lampl Herbert Consultants and Hardee County (ECONorthwest, 2008) estimated a peak average of 100 new jobs per year from the new mine, with no calculation done for lost farm jobs or services. In 2009, there were in Hardee County 208 mining jobs according to Original-IMPLAN data. The Federal Mining a Health and Safety Administration data (www.mhsa.gov), and which lists all phosphate mines by county, corroborates that number. Moreover, the federal data also indicates 204 mining workers in Hardee county in 2011, and 1,284 workers in 2011 for all workers (including administration and office workers) in the three So. Florida counties (Polk, Manatee, and Hardee) in the AEIS study. As the existing mines close, it is likely that the new mines will provide replacement jobs and fewer new jobs than indicated in the AEIS-IMPLAN projections.

14) The AEIS-IMPLAN Work Sheets do not show where the new employment will come from or how it is created. For Hardee County, for example, the base case gives employment of 1,527 in the "without" and 2,221 "with" the Ona Mine, creating a net gain of 694 new jobs. This is VERY different from the detailed Grace Jones study that saw, at most, 71 new jobs with the beneficiation plant! Her study is very meticulous with respect to the land use accounting and specification of the agricultural losses.

Weisskoff's Original-IMPLAN 2009 data also contradicts the importance of the sectors compared to the AEIS-IMPLAN Worksheets: The AEIS Data Entry Worksheets for Hardee County with the S. Pasture Extension give the following for years 1-10:

| | AEIS-IMPLAN value (2009) | Original-IMPLAN value (2009) | Orig.-IMPLAN jobs |
|---|---|---|---|
| Mining: | $1,213,553,828 | $ 65,878,888 | 208 |
| Pasture: | 7,011,842 | 18,316,880 | 75 |
| Citrus: | 56,625,514 | 150,821,248 | 712 |
| Row crops: | 7,722,203 | 78,539 | 1 |
| Vegetables | not given | 16,851,344 | 43 |

14) The AEIS numbers, their relationships with each other, the low value placed on agriculture, the exaggerated claims attributed to the mining output, value, salaries, local spending, and employment are not credible and they are not verified by independent sources outside the industry itself. Moreover, a schedule of the cost of land reclamation, as it relates to yield of the reclaimed land, is not provided. The potential yield of reclaimed land should be known in order to evaluate the long-term impact of the mines, since the quality of the reclaimed lands is inferior to the pre-mined lands.

15) The REMI (Regional Economic Modeling Inc) see http://www.remi.com/ is the appropriate economic model for this kind of growth situation, not IMPLAN. REMI should be used for the inner three counties (Manatee, Hardee, DeSoto), "with" and "without" the mines; and then the outer 5 counties should be added to measure the impact in the broader region (Polk, Hillsborough, Sarasota, Charlotte, Lee).

REMI gives the big picture in a macro-dynamic sense: how the entire base line economy will look in the next 35-50 years. The REMI model can then be supplemented by the detailed breakdowns of the agricultural sectors and by specifying mining exports. Once the REMI gives the broad and realistic picture of the major sectors of the economy, then a detailed sub-model from IMPLAN can be appended or hybridized to ascertain the proportions of the different ag sectors, for example, citrus, pasture, and vegetables (wrongly identified in the AEIS worksheets as "rowcrops"). The REMI model should then be supplemented for future years by REIS data and USDA Outlook data for the prices of the crops which require special market studies to make reasonable forecasts. Putting this information into a dynamic, realistic regional growth model will yield more reliable estimates of the impacts of the new mines.

In conclusion, the economic analysis uses an inappropriate model (IMPLAN) in a robot-like way to walk into the future by freezing the present technologies and by not taking into account the full cost of displacing the dynamic and growing agricultural sectors, especially agricultural services, and their linkages. Instead, the model used in AEIS-IMPLAN over-values the relatively short period of high-valued output from mining, an industry with very little local connectivity compared to the agricultural activities it displaces..

Given the structure of the local economy, it must be concluded that the results of AEIS-IMPLAN are simply not credible.

See attached Table 1 EXCEL .

Submission number 554
(Attachments Available)

| | |
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| **Submission Number:** | 000000554 |
| **Received:** | 08/01/2012 12:00:00 PM |
| **Organization:** | CFIndustries, Chris Kovach |
| **Commenter Type:** | Company |
| **Classification:** | Undetermined |
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| **Commenter ID:** | 52808 |
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| **Name Prefix:** | |
| **First Name:** | Chris |
| **Last Name:** | Kovach |
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| **Title:** | Director of Environmental Affairs |
| **Organization:** | CFIndustries |
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Please see next page.

# Hopping Green & Sams

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July 31, 2012



VIA OVERNIGHT DELIVERY

TO: Draft AEIS Comments
USACE - Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

FROM: Susan L. Stephens

RE: CF Industries, Inc. Comments on Draft AEIS.

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Enclosed is a DVD that contains the following documents:

CF Industries, Inc. Comment Letter on Draft AEIS (Word and pdf versions)

Folder: Attachments to CF Industries Comment Letter on Draft AEIS

- Attachment A: CF Comments Table (Word and pdf versions)
- Attachment B: CF Technical Comments Table (Word and pdf versions)
- Attachment C: CF Résumé Package
- Attachment D: CF SPE Preferred Alternative Details
- Attachment E: CF Reclamation Demonstration Package
- Attachment F: Map – CF Reanalysis of Alternative Sites D & E
- Attachment G: CF Economics Package
- Attachment H: Water Quality and Biological Evaluation of Payne Creek (July 2012)
- Attachment I: Environmental Justice
- Attachment J: CF Recharge System Design and Implementation Practices (4/12/2012)

SLS/kfs

Please note: The CD from CFIndustries was just under 1Gigabyte in size.
Attachments are on the CH2M HILL Server at
\\Groups\MosaicCFI\Mosaic_Team_Read\CommentWorks\DAEIS\Submission_Attachments_Elizabeth\Letters
'CFIndustires-HGS-Susan-L-Stephens\.

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From Susan L Stephens
Hopping Green & Sams
July 31,2012

Enclosed is a DVD that contains the following documents:

CF Industries, Inc. Comment Letter on Draft AEIS (Word and pdf versions)

- Attachment A: CF Comments Table (Word and pdf versions)
- Attachment B: CF Technical Comments Table (Word and pdf versions)
- Attachment C: CF Resume Package
- Attachment D: CF SPE Preferred Alternative Details
- Attachment E: CF Reclamation Demonstration Package
- Attachment F: Map - CF Reanalysis of Alternative Sites D & E
- Attachment G: CF Economics Package
- Attachment H: Water Quality and Biological Evaluation of Payne Creek (July 2012)
- Attachment I: Environmental Justice
- Attachment J: CF Recharge System Design and Implementation Practices (4/12/2012)

## II. GENERAL COMMENTS

### A. Overall Analysis of Phosphate Mining Impacts

CF believes that the data and analysis submitted to and developed by the Corps and CH2M-Hill, Inc. (AEIS Contractor) and presented in the DAEIS show that the pending projects, as proposed by the applicants, do not appear reasonably likely to cause unmitigated adverse impacts to the environment or to the public, either directly, indirectly, secondarily, or cumulatively, in light of past, present, and reasonably foreseeable future activities in the region. Reclamation and ecosystem restoration, enhancement, and creation efforts have been demonstrated to be effective at improving wildlife habitat and connectivity and to contribute to watershed-scale restoration efforts that have proven to maintain or improve the physical, chemical, and biological functions of connected waters of the U.S. Creation and preservation of riparian corridors and integrated upland and wetland habitat nodes consistent with the Integrated Habitat Network improves and expands wildlife habitat and ecosystem functions. The DAEIS and supporting records demonstrate that there are no unmitigated individual or cumulative adverse effects on water resources, ecological resources, recreation, environmental justice, cultural resources, or public health resulting from mining activities, and reclamation provides a variety of sustainable uses of land post-mining. However, as noted above, the discussion of the analyses in the DAEIS should be strengthened and better summarized in each chapter, but most notably in the Executive Summary and Chapter 4. CF suggests that, as it relates to the SPE, the DAEIS should recognize that the scientific data and analyses necessary to make those comparisons regarding alternatives reasonable for CF's project purpose have already been submitted in the administrative record for the SPE Application and should be included in the Administrative Record of the AEIS (see Attachment D); the required alternatives assessment therefore can be conducted with the CF data already in the Administrative Record. Again, it should be remembered that the FDEP Bureau of Mining & Minerals Regulation, a cooperating agency, has already conducted its own very thorough assessment of water resources impacts, and that assessment has been affirmed both by a state dministrative law judge and the head of the FDEP. See Attachment D. The Corps should strive to eliminate

duplication with FDEP review and focus on criteria that are different from or additional to State criteria.

**B. Purpose of Document**

As you know, NEPA requires that each federal agency prepare an environmental impact statement (EIS) for all "proposals for . . . major Federal actions significantly affecting the quality of the human environment." Applications for federal permits, such as a DA Permit, can rise to the level of "major Federal actions" requiring NEPA analysis. In this case, CF's SPE project requires approval from the Corps for activities associated with the project that result in a discharge of dredged or fill material into waters of the United States in accordance with 33 U.S.C. §1344. The Corps has determined that the SPE project and corresponding DA Permit Application constitute a proposal for major federal action that may significantly affect the quality of the human environment.

NEPA is intended as a tool to aid in that agency decision-making. As the DAEIS properly recognizes, it is not an end in and of itself, and it does not mandate a particular result. Furthermore, while an areawide EIS such as this one "may be particularly useful" for reviewing the impacts of similar proposed actions along "with other reasonably foreseeable or proposed agency actions" when they "share common timing or geography," NEPA actually addresses only "pending proposals" for agency action. "NEPA does not require an agency to consider the possible environmental impacts of less imminent actions when preparing the impact statement on the proposed action."

Significantly, in reviewing what constitutes a reasonable range of alternatives, the Corps in the final documents must consider what is reasonable for CF to implement as an extension project. "What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case." Further, the extent of federal jurisdiction over a project and the ability of the agency to implement a particular alternative effects the level of analysis required for that particular alternative. "Reasonable alternatives must be those that are feasible and such feasibility must focus on the accomplishment of the underlying purpose and need....Those alternatives that are unavailable to the applicant...should be evaluated only to the extent necessary to allow a complete and objective evaluation of the public interest and a fully informed decision regarding the permit application." For applications for DA Permits, the Corps should normally focus on the applicant's statement of project purpose from the applicant's perspective.

It should also be remembered that the "No Action" alternative, for purposes of a DA Permit is "one which results in no construction requiring a Corps permit," which may be either by the applicant "electing to modify his proposal to eliminate work under the jurisdiction of the Corps" or "by denial of the permit." Thus, alternatives that would essentially result in no disturbance of waters of the U.S. are functional equivalents of a "No Action" alternative and do not need to be analyzed again.

CF believes the DAEIS properly reflects the role NEPA imposes on the Corps' decision-making process on the SPE Application and affords the Corps and its cooperating agencies, the opportunity for meaningful analysis of the environmental consequences of the four proposals for agency action. CF further suggests that, for several of the on-site alternatives addressed in the document (see, e.g., DAEIS Tables 4-55, 4-56, 4-57 and 4-58), further site-specific feasibility analysis for the SPE is unnecessary as they are clearly unreasonable or not practicable and/or would result in essentially the same mine footprint as the "No Action" alternative.

**C. Clarification of Executive Summary**

Since it may be the only document reviewed by many members of the public, the Executive Summary of the FAEIS needs to be very clear relative to potential beneficial and adverse consequences of each pending project. This is particularly true relative to potential cumulative impacts on downstream water resources and regional economics, given the significant concerns expressed by the public on both of these topics. CF has worked hard to keep local communities and interested stakeholders informed about all aspects of its project and believes that some of the language in the Executive Summary, by not including summaries and conclusions clearly reflected by the data and in the remainder of the DAEIS, has the potential to inadvertently misinform the public about water resource impacts. For example, the fact that the Corps analysis has indeed addressed the Primary Issues of Concern is not clear. Further, the analysis of environmental consequences in the summary does not adequately summarize the information contained in subsequent chapters and in the appendices. CF recommends that the

Executive Summary be revised to add summaries of the environmental consequences discussions relative to impacts in the FAEIS. Also, in many cases, the discussions are split between Chapters 3, 4, and 5. Those discussions should be synthesized and incorporated concisely in the Executive Summary and included completely in Chapter 4, for ease of public review and preparation of the ROD(s) on the proposed actions.

**D. Additional Information in the Administrative Record**

CF understands that the Corps and its AEIS Contractor assessed a great deal of additional data and information that further explain and support the Corps' analyses, even though they are not explicitly recognized in the DAEIS. CF requests that the Corps include that information in the FAEIS in the form of text references, additional appendices, and/or expanded bibliographies, as appropriate. For example, a great deal of information was provided regarding reclamation and mitigation techniques and results that remains unreferenced in the document. CF recommends that a reclamation appendix, at a minimum, be added to the FAEIS. Please refer to Attachment E (Reclamation Package) included herein for information specific to CF reclamation history that CF requests be incorporated into a Reclamation Appendix. Also, the versions of CF's mine, backfill, reclamation, and mitigation plans are not referenced in the bibliography, nor are the FDEP approval documents. CF requests that the documents included in Attachment D be included in the bibliography and referenced as appropriate in the text of the FAEIS.

## III. OVERVIEW OF CF COMMENTS ON DAEIS

In addition to the foregoing, CF's specific comments on the DAEIS can be summarized as follows. More detail concerning each of these comments can be found in Part V of this letter and in Attachments A and B.

**A. Project Purpose**

The overall project purpose for the SPE must consider CF's purpose and goal to extend the life of its South Pasture Mine without an interruption in production at existing average production rates. All of the alternatives examined in the AEIS should be measured against that specific project purpose to determine whether they are reasonable, feasible, or practicable for CF to implement in meeting that purpose. CF requests that Chapter 1 of the FAEIS be revised accordingly.

**B. Site-specific Comparative Analysis**

CF understands and appreciates the regional data review undertaken in the DAEIS, which provided a necessary and helpful way to describe the affected environment and frame the environmental consequences. However, as noted above, project-specific alternatives assessment of environmental consequences must occur at the project level, in light of the specific project purpose of each proposal. CF supports an approach that conducts additional detailed project level analysis and assessment of reasonable NEPA alternatives for the SPE, as well the required 404(b)(1) and public interest assessments, with incorporation and reference to data and information from that site-specific process into the comparative alternatives assessment included in the FAEIS as needed.

**C. Site-specific Datasets**

Verified, site-specific datasets for the proposed projects should be used to supplant and correct regional datasets wherever possible, as the DAEIS recognizes and CF concurs that field-verified, detailed site-specific data are far more accurate and useful for assessing and weighing environmental consequences of alternatives than are regional datasets or generalized metrics.

**D. Alternatives Analysis**

Project alternatives that are not proximate to or that would reasonably likely halt, interpose significant delays in, or reduce production at the Hardee Phosphate Complex would not achieve CF's project purpose and are not reasonable alternatives for CF. Only alternatives that are reasonable and feasible for a particular applicant to implement as its proposed project should be compared against the applicant's Preferred Alternative for that project. Further, in assessing and comparing on-site avoidance/minimization alternatives, the Corps in the FAEIS must recognize the extent to which an applicant's Preferred Alternative incorporates appropriate and practicable avoidance and minimization compared to the full extent of the property, particularly when a cooperating agency (FDEP) has already assessed those considerations. In assessing and comparing the environmental consequences of both on- and off-site alternatives, the Corps in the FAEIS should assess

comparative ecological connectivity benefits of the practicable alternatives, but this analysis cannot stop simply with a comparison of wetlands mined or avoided. CF requests that the FAEIS recognize the industry's substantial experience and success in restoring site conditions to historic (as opposed to pre-mining) conditions in a manner that meets regional conservation goals, as well as CF's specific proposal to restore historic ecological and hydrological conditions on the SPE. Alternatives that do not afford a similar opportunity for regional restoration should be discounted accordingly.

Relative to the implementation of specified acreage buffers (or geographical exclusions) as part of the on-site alternatives analysis, CF does not agree that arbitrarily assigned buffer distances are reasonable or necessary to protect the wetlands or surface waters regulated under the Clean Water Act. Any consideration of buffers must have a reasonable and quantifiable scientific basis and be reasonable in terms of benefits achieved by their implementation. This is particularly true in light of certain key facts: (1) implementation of buffers would generally require the Corps to attempt to implement a prohibition on mining in uplands, notwithstanding the limitations on Corps jurisdiction under the Clean Water Act; (2) implementation of buffers would have a significant adverse impact on mineral recovery without a significant environmental benefit; and (3) application of the buffers would essentially result in the "No Action" alternatives, which is already addressed in the document. Any buffer application or determination must be made on a site-specific basis; the evidence demonstrates that construction of a purpose-designed recharge and berm system between all avoided areas and mine areas, along with other site-specific Best Management Practices (BMPs), are effective in preventing adverse impacts in the avoided areas. The buffers suggested by scoping comments have already been sufficiently evaluated in the DAEIS; they are clearly unreasonable and do not need to be further analyzed in the FAEIS.

**E. Water Resources Impacts Analysis**

CF generally concurs with the Corps' overall conclusions as to the cumulative potential effects on water resources of the proposed future phosphate mining. However, as explained below, the Corps used certain overly conservative assumptions in its analyses that tend to exaggerate any potential effects, which could lead to a misunderstanding of the true potential impacts of phosphate mining. CF requests that the document better recognize the effects of decades of water conservation and reuse by the phosphate industry and the various BMPs recommended by EPA's Environmental Impact Statement: Central Florida Phosphate Industry (November 1978) to protect downstream water quality and reduce reliance on groundwater for operations. These and other directed actions in the basin, have resulted in a continuing trend of improvement in water quality, aquifer levels, and streamflows over historic conditions.

**F. Economic Resources Impacts Analysis**

CF concurs that cessation of mining at the end of the current mine life of the South Pasture and other existing mines would have a devastating economic effect. Not only would Hardee County and the region be deprived of jobs, wages, tax revenue and other economic benefits, CF would ultimately be forced to shutter both its mine and its Plant City Complex and port facilities, adversely affecting not only CF's employees, vendors, and contractors, but also CF's stockholders as a publicly traded company. The potential impact on American farmers and consumers must also be considered because, if sufficient phosphate fertilizer is not available domestically at a reasonable price, crop yields could be affected and food prices could subsequently rise.

**G. Environmental Justice Impacts Analysis.**

The economic benefits that would result from the continued mining in Hardee County will extend to low-income and minority communities. As discussed below, low-income and minority populations in Hardee County would in fact be harmed if mining ceases. CF requests that the FAEIS include this analysis to clearly and affirmatively establish that there are no environmental justice concerns relative to phosphate mining in Hardee County.

**H. Mitigation**

CF agrees that the Florida phosphate industry conducts wetland mitigation with large-scale system connectivity and the overall watershed in mind. (See DAEIS, Section 5.3.1., p. 5-2, lines 29-33). The Mitigation Chapter, Chapter 5, should recognize that, while some off-site mitigation opportunities may exist that are practicable for

a given project, phosphate companies are actually uniquely qualified and experienced in providing on-site, permittee-responsible mitigation that achieves the goals of the Compensatory Mitigation Rule more effectively than mitigation banking or in-lieu fee mitigation. Phosphate reclamation (both upland and wetland) coupled with avoidance, enhancement and preservation has demonstrably achieved ecological benefits that are regional in scope. While mitigation banks are not an available option. See Attachment E. Further, the FAEIS should recognize the ability of the applicants today to restore wetlands and surface waters in conjunction with reclamation of adjacent uplands as native land covers and permanently protect avoided and restored or enhanced lands through the grant of conservation easements, which protection would not be provided by the No Action alternative. This is a key part of the assessment of the environmental consequences of the various alternatives; those alternatives cannot be properly assessed simply as acres of land avoided without a consideration of the positive consequences achieved in the proposed post-reclamation footprint if the land is mined as proposed. The FAEIS should recognize the role of reclamation in initial mine plan development not only as mitigation, but as an important tool in comparing alternatives.

## IV. DETAILED COMMENTS ON DAEIS

### A. Use of Appropriate Datasets for Analysis (Entire Document)

It is understood that publicly available data had to be used in the AEIS analyses by the very nature of the scale of the study. CF supports the use of regional datasets for initial site screening purposes (Section 2.2.4) and for basic assessment of the regional affected environment (Chapter 3) (with some corrections, as noted in the Technical Corrections Table). However, CF believes exclusive use of regional databases for assessment of on-site alternatives (Sections 2.2.3 and 4.10) is of limited value. Incorporation of site-specific data, particularly where readily available and field validated, will improve the Corps' NEPA analyses.

The regional information used as a basic alternatives screening tool in the DAEIS should be supplemented with such site-specific data for better performance of feasibility and practicability analyses for each project. The NEPA and avoidance and minimization analyses should advance beyond use of the initial screening tools [e.g., the Critical Lands and Waters Identification Project (CLIP), the Integrated Wildlife Habitat Ranking System (IHWRS), and National Hydrography Dataset (NHD) databases] to more precise metrics.

First, both the IHWRS and CLIP are based entirely upon analysis of large-scale remote sensing data consistent with 1:24,000 to 1:100,000 map scale resolution. While such data are sufficient for initial statewide screening of candidate sites, they are not appropriate for use in high-accuracy mapping applications. As an example, on four of 24 sites evaluated in the DAEIS, the acreage of highest quality wildlife habitat projected was up to twice the acreage of native cover present on the site, which demonstrates that up to half of the sites' highest quality wildlife habitat was actually land that had been converted to agricultural uses. It is for this reason the authors of CLIP and IHWRS include explicit disclaimers concerning potential small-scale inaccuracies (see pp. 4-6 of the Clip 2.0 Technical Report and pp. 19-20 of the 2009 IWHRS report).

As the AEIS process moves from draft to final, the focus and metrics applied in the alternatives analyses of the four pending applications should comprise exclusively those specified in the 404(b)(1) Guidelines, NEPA, and the Corps public interest considerations. The regional GIS data sets used in the DAEIS relate to only a few of those regulatory criteria. In contrast, the baseline data provided by both applicants in all four applications include site-specific ground level data that have received substantial field verification by the Corps and/or FDEP. In addition, these data directly correlate to the criteria that must be evaluated by the Corps during the application review and are current. Reasonable and practicable alternatives to be compared must consider (1) their relative reasonableness and practicability (under the 404(b)(1) Guidelines) to achieve each project's purpose; (2) their relative ability to achieve regional/watershed-based conservation and wildlife habitat connectivity goals; and (3) their relative impacts on ecologic resources, water resources, economic resources, cultural resources, and environmental justice, both individually and cumulatively. For these reasons, CF does not believe that the use of regional datasets is an appropriate metric to use in establishing different mine footprints for the on-site alternatives analyses, and we urge the Corp to use the site-specific information presented in the applications as the basis for such determinations.

**B. Comments on Executive Summary**

CF believes the accuracy and substance of the Executive Summary is very important, given that the Executive Summary may be the only portion of the AEIS that certain members of the public or other interested parties might read. To that end, while we commend the detailed nature of the Executive Summary in general, CF suggests a number of clarifications to better inform the general public concerning potential impacts associated with past, present, and future phosphate mining in Central Florida.

First, the Executive Summary of the FAEIS should make clear that the "Primary Issues of Concern" identified in ES.4 have been addressed, and that the data and analysis in the AEIS and in the Administrative Record supporting the AEIS, as well as the individual applications (also part of the Administrative Record for the AEIS) support the conclusions in the FAEIS. The implicit assumption that the "Primary Issues of Concern" identified in ES.4 are valid or remain unaddressed is not supported by the remainder of the document, and in particular, the appendices.

Second, the Executive Summary of the FAEIS (as well as the subsequent chapters and appendices) should include concise summaries regarding each issue of concern based on the data and comparative analyses drawn from the subsequent chapters regarding the direct, indirect and cumulative environmental consequences of each resource category. The discussion in the subsequent chapters concerning each resource is too segmented to be easily comprehended by the lay public (e.g., wetlands impacts are discussed in Chapters 3, 4, and 5). This is particularly true relative to cumulative impacts. For example, the Executive Summary should be revised to make clear that, relative to impacts on downstream water users and downstream hydrology, streamflows and baseflows contributing flow to Horse Creek, Peace River, or Charlotte Harbor are improving over historic conditions and will continue to improve relative to phosphate mining, even if all of the proposed and reasonably anticipated future mine projects are approved.

**C. Comments on Chapter 1**

Purpose and Need. CF believes Chapter 1 contains an inaccurate statement of the overall project purpose for the SPE; it fails to recognize the principal purpose of the project, i.e., to extend the life of the South Pasture Mine, which in turn supplies CF's Plant City Complex with the continued necessary raw materials for fertilizer production. (DAEIS Section 1.2.2.3, p. 1-16). The project purpose and need must recognize that construction of a new separation/beneficiation facility would not achieve the overall project purpose of the SPE extension project, as CF's South Pasture separation/beneficiation facility is the newest in the country and the SPE size is not sufficient to justify construction of a new beneficiation plant.

CF currently operates the Hardee South Pasture Mine Complex at a nominal average production rate of 3.5 million tons per year. CF's Plant City Fertilizer Complex has an average annual phosphoric acid production rate of 1 million tons per year, which is used to make 2 million tons per year of DAP/MAP. It takes approximately 3.5 tons of phosphate rock to produce 1 ton of phosphoric acid. The footprint of the phosphogypsum stacks for the Plant City Fertilizer Complex is fully permitted for the expected life of the Plant City Complex through 2040 and, as discussed in greater detail below, the impacts to the human environment associated with it (including its phosphogypsum stacks) were fully assessed at the time the Complex was permitted. The SPE, as currently proposed by CF, is expected to meet CF's need for the South Pasture Mine Complex (i.e., Hardee Phosphate Complex) to supply rock to its Plant City Phosphate Complex until 2035. The current Plant City Phosphate Complex phosphogypsum stack plan provides for stacking capacity through the year 2032 through completion of permitted Construction Sequence II and vertical expansion atop the closed phosphogypsum stack. Should additional stacking capacity be required beyond 2032, a third lateral expansion of the existing stack, Construction Sequence III, has already been approved through the Development of Regional Impact (DRI) process that provides for an additional 11 years of stacking at current production rates. The important point is that all wetlands and uplands restoration and creation work has been completed for the stack expansion plan in accordance with Plant City Complex land development approvals and associated permits, including Construction Sequence III. It should be noted that the Plant City Phosphate Complex and phosphogypsum stack are not located in the Peace River watershed. See Attachment F.

CF recommends that the Corps recognize and adopt an Overall Project Purpose for the SPE, as follows, at lines

29-32 on p. 1-16 of the DAEIS:
The overall project purpose for the SPE is to extend the operational life of the South Pasture Mine Complex by extracting phosphate ore from the mineral reserves located within a practicable distance from the existing South Pasture beneficiation plant and constructing the associated infrastructure required to extract and process the phosphate ore at the South Pasture separation/beneficiation facilities, recognizing that the ore extracted must be within a practicable distance to the existing South Pasture beneficiation plant.

**D. Comments on Off-Site Alternatives Analysis (Chapter 2)**

CF generally concurs with the screening analysis contained in Chapter 2 of the DAEIS and removal of certain sites from further detailed alternatives review as clearly not reasonable or achievable alternatives. See CF's Alternatives Analysis, at pp. 8-13 of the Environmental Narrative accompanying CF's DA Application for SPE. However, additional screening tools, such as reference to local Comprehensive Plans or other databases, reveal significant constraints on the ability to develop several of the alternative sites included in the DAEIS. Specifically relevant to the extension of CF's South Pasture Mine operations, two of the alternatives within a ten-mile radius of the beneficiation facility are not reasonable alternatives to CF's Preferred Alternative for the SPE for the reasons discussed below.

Integrated Habitat Network (IHN). Page 2-57 of the DAEIS does not accurately reflect the goals of the IHN where it is used as a screening tool to determine mineable extent of alternative parcels. The IHN should not be used as a tool to determine avoidance areas, but rather, as a tool for establishing the potential for connectivity of wildlife corridors through preservation, restoration, creation or enhancement of habitat. See CF comments on Chapter 5, below.

E.S.5 and SECTION 2.2.4.4: ANALYSIS OF SITES D & E. Subsequent to publication of the DAEIS, further analysis of alternative sites was completed to ensure reasonable and practicable alternatives were available to compare against the SPE application submitted by CF and to independently verify CF's assertion that no such alternatives exist. Consistent with DAEIS Section 3.1.5, the GIS database was queried to identify which of the preliminary offsite polygons shown on DAEIS Figure 2-17 are located within 10 miles of the existing South Pasture beneficiation plant. Sites A through C, F through R, T through DD, and FF through JJ lie entirely beyond the 10-mile radius. Small portions of sites F, S, and EE fall within the 10-mile radius; however, these sites are too small to meet the project purpose; the acreage within each is too small to justify walking a dragline and construction or relocation of mine infrastructure corridors there (see DAEIS pp. 2-23-29). Therefore, alternative sites F, S, and EE are not reasonable or practicable alternatives for the SPE project. In contrast, alternative sites D and E lie mostly within the 10-mile radius; therefore, further review of these sites was conducted by CF.

Attachment F illustrates that the portions of alternative sites D and E lying within 10 miles of the South Pasture beneficiation plant are mostly subdivided into parcels smaller than 430 acres. As documented in DAEIS Section 2.2.4.4, real estate negotiations that require more than 10 transactions to acquire are generally unsuccessful. Therefore, further review of the property ownership records was conducted to determine whether large blocks of land (at least 40 acres) were controlled by a limited number of owners, such that a portion or portions of sites D and E, if aggregated, could form a reasonable alternative to the SPE site.

The first factor to consider is local government land use restrictions. Shown (in cross hatching) on Attachment F is the land where mining is prohibited due to its designation in the Hardee County Comprehensive Plan as the Vandolah Rural Center mixed use future land use district. See Objective L.8, Hardee County Comprehensive Plan. Therefore, the land designated as Vandolah Rural Center is not a reasonable alternative to the SPE property.

As shown on Attachment F, several large parcels occur elsewhere within sites D and E, some of which abut CF's property and others that are separated from CF by numerous small parcels. Review of the property appraiser's data identified the largest 10 landowners adjacent to or near CF that own 4,365 acres and the largest 20 nearby landowners control 5,549 acres. These ownership interests range from 717- to 56-acre parcels. As the DAEIS recognizes, connectability of alternate sites to the beneficiation plant is of critical importance (see DAEIS p. 2-29).

When acquiring property to expand a mine, the most important land to acquire is the abutting property. There are currently five landowners who control approximately 1,535 acres abutting CF property, referred to as the first "tier" and shown in green on Attachment F. Should CF be able to acquire all of this property, another four parties control approximately 615 acres abutting the first "tier" of landowners, which are shown in blue. Attachment F illustrates the "tiering" required to acquire the largest parcels within sites D and E. Acquisition of the 5,549 acres controlled by the 20 largest owners would require extending out to the seventh "tier" of owners. Obviously, none of the "tier 2" properties could become mineable unless CF controlled the abutting "tier 1" property, i.e., unless they are "connectable" (see DAEIS p. 2-29).

Beyond the second tier, one landowner, or a combination of two alternate landowners control access not only to their own property, but all of the "tier 3" properties. Thus, access to any of the "tier 3" properties, would not be possible unless CF was able to successfully conclude the acquisition of one specific "tier 1" and one or two other specific "tier 2" parcels.

Attachment F illustrates the large landholdings abutting or near CF's property are extremely irregular as compared to the large, contiguous SPE tract. Mining logistics would be adversely affected by: (1) Hardee County Land Development Code property-line setback requirements, thereby potentially reducing the mineable percent of each parcel (see DAEIS Table 2-15); (2) infrastructure corridors that would not be straight, effectively lessening the 10-mile radius maximum pumping distance threshold (see DAEIS Section 3.1.5); and (3) the presence of only three blocks of land large enough to site a settling area, necessitating land acquisition from two specific third-party owners (see DAEIS p. 3-5).

This acquisition scenario differs dramatically from the land acquisition constraints applicable to siting a theoretical new mine elsewhere on land not owned by CF or Mosaic, where two acquisitions from three or four existing landowners could form a single, contiguous 9,000-acre mine site. In the case of the CF SPE, acquisition of land beyond the "tier 2" acres would not be possible unless CF successfully completed transactions with one specific "tier 1" owner, one or two specific "tier 2" owners, and one specific "tier 3" owner.

In addition to these constraints, CF also would first have to conduct exploratory drilling to confirm these properties contain mineable reserves (see DAEIS p. 2-11). Thus, sites D and E introduce the risk that CF could not develop these lands in time to replace the South Pasture Mine, should these lands have insufficient or poor quality reserves. CF also notes that sites D and E would, at most, represent infill parcels to further extend, rather than to serve in lieu of, the SPE (see DAEIS Section 2.2.4.4).

In summary, sites D and E do not contain lands that could be reasonably and practicably acquired and developed by CF to supplant more than a small percentage of the reserves available beneath the SPE, because (1) the land needed to form an alternative to the SPE would require CF to purchase land from two specific landowners without the power of eminent domain; (2) not more than 20 percent of the acreage available in the SPE would be available from other willing sellers; (3) siting of one or more clay setting area(s) would require purchases of specific parcels; and (4) mining costs would be escalated by increased property-line setbacks and circuitous mining infrastructure corridors. Therefore, sites D and E are not reasonable alternatives to the development of SPE.

**E. Comments on On-Site Alternatives Analysis (Executive Summary, Chapters 2 & 4)**

The reasonableness of alternatives set forth in ES.5 and in Chapters 2 and 4 must consider whether the alternative site is owned by a competitor, as well as whether the alternative is within 10 miles of a company's existing beneficiation facilities for proposed extension projects. Mosaic's Wingate East Extension, Ona Mine, Desoto Mine, Pine Levels/Keys and Pioneer tracts (Alternatives 2 through 4 and 6 through7, respectively) are not reasonable alternatives for CF as alternative locations for its SPE project because: (1) they are already owned by Mosaic and are reasonably expected to be developed as phosphate mines or mine extensions by Mosaic; and (2) with the exception of the Ona Mine, none are within 10 miles of the Hardee Phosphate Complex beneficiation facility. It is not reasonable to consider Mosaic-owned parcels as alternatives to CF's preferred mine location because it is not reasonable to assume that those parcels are available to CF or could reasonably be acquired. Consideration of such an alternative simply does not "make sense" in light of CF's project purpose, as required by the CEQ Guidelines and 33 CFR Part 325, App. B.

Buffer Distances. There appears to be no hydrologic, ecologic, or water quality basis for establishing buffers of arbitrarily set distances that would uniformly (or selectively) apply in all cases. To be properly considered, buffer concepts must be addressed on a project-specific basis in light of site-specific considerations. Specifically, there appears to be no valid scientific data supporting the establishment of setbacks between phosphate mine areas and avoidance areas of 1,500, 3,000, or 6,000 feet (or any other distance) beyond comments made by certain commenters during the scoping process. The buffers presented in the DAEIS are not necessary to protect against water quality impacts associated with mining, in light of the perimeter berms established as stormwater best management practices (BMPs) around mining areas. No evidence has been presented that the extensive buffers in the DAEIS are necessary to protect or improve stream flow or hydroperiods in adjacent streams or wetlands, in light of the demonstrated recharge systems designed and installed adjacent to such features. There is no documentation or other evidence that the buffers considered in the DAEIS will provide greater protection of habitat values or wildlife in the avoided systems. The evidence suggests (and CF's SPE Corps Application data confirms) that, in many instances, on-site wetland and stream systems and their adjacent uplands have been adversely impacted by conversion to agricultural use (pastures, cattle, row crops, ditches).

The available data indicates that extensive buffers as presented in the DAEIS are not necessary to protect or improve stream flow or hydroperiods in adjacent streams or wetlands, in light of the recharge systems designed and installed adjacent to such systems. On the contrary, as the DAEIS recognizes, recharge systems are designed to provide hydrologic functions in lieu of those that conceivably would be provided by large buffers to maintain a functionally viable water table protective of wetlands and streams. For example, the Southwest Florida Water Management District's Water Use Permit for CF's South Pasture Mine requires the installation of recharge systems whenever the company is mining within 1,800 feet of a property boundary or wetland preserve, specifically to prevent adverse dewatering of wetland water levels and stream baseflow. The 1,800 foot distance was determined conservatively from site-specific soil and aquifer characteristics. In effect, the recharge systems provide a level of water level protection equivalent to that of an 1,800 foot buffer or better. Furthermore, CF has conducted a detailed water budget for the existing South Pasture and proposed South Pasture Extension Mines as part of the company's Environmental Resource Permit application. Given CF's permitted WUP groundwater withdrawals and dedicated storage capacity, the company can provide offsite stream flow equivalent to that of a pre-mining condition on a long-term, annual, and seasonal basis. Also, the company can provide offsite flows in a manner that would not adversely affect the withdrawal capacity of the Peace River Manasota Regional Water Supply Authority.

Also, upon reclamation, the company's MIKE SHE integrated model results indicate that the land will provide enhanced flows for approximately 90% of the time, with such benefits occurring during all but the wettest of periods. This means that both during mining and after reclamation, CF's property will provide for adequate offsite flow during the dryer and most common intermediate rainfall periods, while reducing the severity of major floods. Therefore, the extensive buffers are not necessary to protect against water quantity impacts in avoided or downstream areas.

For example, on the SPE the majority of the uplands within 1,500 feet of the proposed No Mine area comprise agricultural land, barren/disturbed land, or transportation/utility uses (FLUCCS 200, 700, or 800, respectively). Specifically, buffering the proposed No Mine area by 1,500 feet results in the protection of 2046 acres of uplands (1,443 acres of which are agricultural or disturbed land cover types) and only 427 acres of wetlands. Therefore, 58% of the total buffered area and 69% of all uplands within the buffer are agricultural and/or disturbed. Consequently, many of the wetlands and patches of native upland land cover within this buffer are severely fragmented by the dominant agricultural land. Similar but more severe effects are realized when the 3,000 and 6,000 foot buffers are applied. This demonstrates that preservation of these areas does not provide valuable ecological connections between "core" areas of high quality habitat.

The Affected Environment (Chapter 3) and Mitigation (Chapter 5) discussions indicate such buffers are unnecessary. As Attachment E demonstrates, the proposed hydrologic monitoring and site-specific geologic investigations, coupled with recharge ditch and berm systems designed based on site-specific surface and

subsurface conditions and the condition of adjacent preserves, are fully protective of off-site and on-site avoided areas when designed and implemented as proposed in CF's Preferred Alternative. Mining activities adjacent to a specific preserve occur only briefly (i.e., typically a few years), as opposed to permanent land use changes (e.g., commercial or residential development) where the presence of buffers may be warranted due either to the permanence of development or the inability of the developer to implement BMPs such as those proposed by CF. Furthermore, CF's Preferred Alternative also includes landscape-scale reclamation that results in a net increase in streams, wetlands, and native habitat covers on site and elimination of historic agricultural land use impacts, which is a benefit that would likely not be achieved by implementing these unnecessarily large buffers, without the revenues generated by mining to fund the restoration. See Attachment D (SPE Application, Wildlife Habitat Management Plan). These large buffers also contain uplands that are mineable without federal Clean Water Act authorization; therefore, in many cases, such buffers go beyond the "No Action" Alternative in the DAEIS. Based on these factors, CF believes the buffers presented are unwarranted, inappropriate and unworkable as alternatives.

In addition, the buffers suggested, as well as several of the alternative mine-footprints, are neither reasonable nor feasible to implement on the SPE based upon the amount of potentially mineable land they clearly preempt. It is very important to recognized that CF's Preferred Alternative already represents substantial aquatic resource avoidance based on the actual condition and function of the system to be protected, as well as technical and logistical feasibility issues such as dragline maneuverability, stream and wetland crossings, infrastructure requirements, and clay settling area requirements. The FDEP has already required mine footprint reduction at the state level on these bases, which necessitated a loss of reserves. See Attachment D (FDEP approvals; SPE Application at Environmental Narrative).

Specifically, CF requests that the percentage of the SPE mine site that would be preempted by the DAEIS alternatives be clarified as follows:

CF's Preferred Alternative already represents permanent and protected avoidance of over 1,000 acres of wetlands, streams, and native habitats on-site, and an associated loss of mineral reserves beneath those acres. CF's Preferred Alternative represents mining and reclamation of 6,418.2 acres of the total site but this is not the entirety of the mine site—or mine reserves—on the property. Thus, references in Tables ES-5 through ES-11 and Tables 4-55 through 4-61 to the SPE mine site as comprising 6,418 acres is inaccurate Preferred Alternative. Rather than CF's Preferred Alternative representing 100% recovery of potential available reserves, as implied by the DAEIS, 6,418 acres actually represents only 83% of the land area of the SPE (i.e., a loss of 27% of potential reserves), and actual acres to be mined is significantly less than that. That figure reflects areas that are necessarily disturbed but not mined as a result of project logistics such as dragline maneuverability, wetland crossings, and perimeter berm requirements. Project logistics completely preclude mining small isolated areas, such that avoidance of the areas as suggested in the DAEIS on-site alternatives would necessitate far greater reserve losses than those directly underlying the avoidance area and would preempt even more land than is reflected in the table. Most of the mine alternatives presented, given the expansive buffers, essentially result in a "No Action" mine footprint in light of the actual areas to be avoided, the buffer, and the additional land area preempted by project logistics.

Even without taking such project logistics into account, a straight calculation of reserves lost based on the avoided acres plus the buffers should reflect the actual percentage of the total project site, not simply the Preferred Alternative mine footprint, i.e., it must recognize the 1,096 acres already avoided by CF's Preferred Alternative. The DAEIS comparisons of potential reserve recovery should be adjusted accordingly. However, it is important to note that each acre does not yield the same quality, quantity or thickness of reserves. Likewise, each on-site alternative creates site-specific issues with respect to logistics and feasibility, i.e., whether draglines and infrastructure can be accommodated by a particular mine footprint. As a general rule, mining around uneven landforms such as wetlands and streams requires additional avoidance simply based on the size and maneuverability of the dragline. See Attachment D, SPE Application, Environmental Narrative. A brief look at the amount of potentially mineable reserves lost by the various alternatives on Tables 4-55 through 4-59 demonstrates the clear unreasonableness of those alternatives for CF's SPE:

Table ES-5/4-55: Priority 1 and 2 Avoidance Areas: CF's Preferred Alternative already incorporates avoidance of high quality and unique habitat to the extent feasible and practicable, although it does not specifically incorporate CLIP Priority 1 and 2 concepts. Further, CLIP 1 and 2 encompasses substantial acres of upland habitats. The Clean Water Act, Section 404, does not regulate uplands, only waters of the United States.
1,500 Foot Buffer = Loss of 89% of potential available reserves
3,000 Foot Buffer = Loss of 96% of potential available reserves
6,000 Foot Buffer = Loss of 100% of potential available reserves
Table ES-6/4-56: Perennial Streams: There are no perennial streams on the SPE project site. Therefore it is unclear what is being used as the basis for this analysis, since it appears to be a separate analysis from the Perennial + Intermittent Streams avoidance alternative in Table ES-7/4-5. CF's Preferred Alternative already incorporates avoidance of natural intact (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.
1,500 Foot Buffer Not applicable to SPE
3,000 Foot Buffer Not applicable to SPE
6,000 Foot Buffer Not applicable to SPE
Table ES-7/4-57: Regional Dataset Mapped Perennial and Intermittent Streams: The streams as mapped for purposes of these tables do not comport with the site-specific, field-verified stream mapping undertaken by CF, which is in the process of being verified as part of the wetland jurisdictional determination for the site. These numbers do not accurately reflect the existence of length of streams on the SPE. CF's Preferred Alternative already incorporates avoidance of intact natural (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.
1,500 Foot Buffer = Loss of 65% of potential available reserves
3,000 Foot Buffer = Loss of 88% of potential available reserves
6,000 Foot Buffer = Loss of 96% of potential available reserves
Table ES-8/4-58: Peace River Greenway Initiative (PRGI) Areas: As set forth herein, the Peace River Greenway Initiative (PRGI) includes primarily uplands and agricultural lands not subject to Corps or EPA regulatory jurisdiction.
Consideration of the Initiative map areas (or of IHN areas) as avoidance concepts does not comport with the goals of the PRGI nor do they appear to be consistent with available site-specific data. CF's Preferred Alternative already incorporates and integrates creation of integrated riparian corridors and adjacent native habitat and connectivity to the IHN, both key goals of the PRGI. Strict avoidance of the PRGI areas (which do not appear to be properly mapped) is not required or even preferable to achieve the restoration and connectivity goals of the PRGI.
Avoidance of PRGI Areas = Loss of 64% of potential available reserves, primarily through avoidance of upland areas
Table ES-9/4-59: High-Quality Wetlands Identified by Applicant: CF agrees with the concept of on-site alternatives based on the actual conditions and functions of the wetlands and surface waters on site. This concept has already been incorporated into CF's Preferred Alternative. However, it must be recognized that the DAEIS does not assess site-specific considerations such as mine logistics, feasibility, and practicability of additional avoidance beyond what is already reflected in the Preferred Alternative. CF has previously conducted a logistical and technical practicability analysis of additional avoidance of high-quality wetland and surface waters. See CF SPE ACOE Application, Environmental Narrative.
1,500 Foot Buffer = Loss of 65.6% potential available reserves
3,000 Foot Buffer = Loss of 46.4% potential available reserves
6,000 Foot Buffer = Loss of 27% potential available reserves
Table ES-10/4-60: Applicant-Mapped Perennial and Intermittent Streams: The streams as mapped for purposes of these tables do not comport with the site-specific, field-verified stream mapping undertaken by CF, which is in the process of being verified as part of the wetland jurisdictional determination being undertaken for the site. These numbers do not accurately reflect the existence of length of streams on the Extension parcel. CF's

Preferred Alternative already incorporates avoidance of intact natural (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.
1,500 Foot Buffer = Loss of 35.3% potential available reserves
3,000 Foot Buffer = Loss of 18.4% potential available reserves
6,000 Foot Buffer = Loss of 7.6% potential available reserves
On-Site Alternatives Tables. CF requests that the DAEIS On-Site Alternatives tables be revised to reflect a comparison, on a project by project basis, of (1) the total acres of the project site; (2) the Preferred Alternative mine footprint acres; (3) the other on-site alternatives mine footprint acres; and (4) the additional acres disturbed but not mined for ditch and berm systems. Percentages of reserves preempted, as well as a percentage of additional acreages likely preempted by mining logistics (using the DAEIS assumptions, for ease of comparison, but with the appropriate caveats) under each alternative should be included in the tables.

**F. Comments on Ecological Resources (ES.7.1, Chapter 3, Chapter 4)**

It is inaccurate to suggest, as is done in the Executive Summary, that a cumulative impact to wetlands and streams will result from mining the proposed and reasonably likely future mine sites if they are not avoided. DAEIS Section E.S.7.1. First, there has been a demonstrated increase in wetland/stream acreage since 1999 as a result of reclamation. See Attachment B (Technical Comments). Similarly, the CF Preferred Alternative results in a 14% increase in wetlands on-site over existing conditions. It must be remembered that, unlike residential urban/commercial development (or even most agricultural uses) phosphate mining does not permanently reduce native habitats nor leave permanent infrastructure in place. In contrast, mining projects must implement both wetland mitigation, (requiring replacement of physical, chemical and biological functions of wetlands and surface waters based on the Uniform Mitigation Assessment Methodology (UMAM) and other qualitative assessment tools), and type-for-type, acre-for-acre, foot-for-foot mandatory reclamation of wetlands and streams on-site (something not required of other land uses). Detailed site-specific analysis prior to construction of the wetland systems and comprehensive monitoring and maintenance afterward assure they will be successful. See comments on Mitigation (Chapter 5) and Attachment E (Reclamation Package); See Attachment D.

CF's ability to restore riparian corridors and provide interconnectivity to PRGI Lands, IHN Lands, or other lands targeted for conservation, must be considered when assessing cumulative impacts associated with mining activities. The ES and Chapters 2 and Chapter 4 should recognize the positive contributions to wetland, floodplain and stream conservation afforded by reclamation and subsequent post-reclamation preservation. As discussed in our comments to Chapter 3, reclaimed wetlands account for much of the increase in wetland acreage documented between 1999 and the present. Further, restoration of systems seriously damaged by ditching and other agricultural impacts can often best be accomplished through reclamation; the large expenditure of funds necessary to accomplish restoration and subsequent maintenance and management of restored systems makes strict environmental restoration projects generally unavailable through public means. See Attachment D (CF SPE) and E (CF Financial Assurances).

If damaged systems are simply avoided, the economic and human nutrition benefits associated with the mining and extraction of phosphate rock (see above) would not occur, and the environmental benefits associated with restoration of damaged systems would also not occur (see above; see also Attachment D (CF Application; CF ERP). Thus, as set forth below, the focus of avoidance efforts needs to be site-specific and must focus on the function and quality of the specific wetland or surface water at issue; these decisions cannot reasonably be made with reference only to regional data.

The ability of the phosphate industry to restore wetland and surface waters to equal or improved ecological function and condition following mining and to create post-reclamation native landscapes that achieve state and local habitat creation/corridor goals should part of the Environmental Consequences analysis—any comparison of on-site alternatives is incomplete without consideration of the post-reclamation/post-preservation landscape. It should further be recognized that simple avoidance of certain types of systems (e.g., all streams and their floodplains, all forested wetlands, etc.) would often leave those systems impacted by ditches and drainage features, fragmented, and surrounded by altered habitat such as improved pasture.

As the DAEIS demonstrates, phosphate mining has already reached its peak in terms of acres impacted compared to acres reclaimed, and reclamation is now outpacing mining. Reclamation will continue to outpace mining in the Peace River watershed through 2045, by which date CF's SP and SPE are expected to be fully reclaimed. The FAEIS should make clear that wetland and stream acreage in the Peace River Watershed will increase over time as mining is followed by reclamation in phases across each proposed mine site. That increase will not occur but for the proposed projects. CF submits that the data and analysis in the DAEIS and Administrative Record compel a conclusion that the proposed projects will not have an adverse direct, indirect, or cumulative impact on wetlands or surface waters in the study area if mitigated as proposed. Supplemental information, attached hereto as Attachment E, further supports the Administrative Record in this regard.

**G. Water Resources Impacts and Analysis (Chapters 3 & 4)**

CF concurs that hydrologic analyses, including hydrologic analyses submitted by CF to support its water use permit and ERP for the SPE, as well as other modeling analyses prepared by Ardaman and Associates, Inc., AMEC, Hydrosystems Associates, Inc., and others, demonstrate a predicted increase in ground water levels over time and cumulatively show no adverse impact as a result of past, present, or proposed phosphate mining. The appendices recognize this, but the DAEIS is not clear. This is not due solely to a reduction in agricultural pumping, but also due to the gradual replacement of mine excavation areas with reclaimed areas. This result occurs in the No Action Alternative as well as implementation of all of the projects as proposed.

However, this portion of the DAEIS does not fully reflect Appendix D of the DAEIS or the other analyses noted above, and does not acknowledge that most of the current and future recovery of the Floridan Aquifer System (FAS) is a direct result of the conservation efforts and reductions in water use already achieved by the phosphate industry. Agricultural water use has decreased and is expected to continue to do so due to land use transition; additionally, the Southwest Florida Water Management District's (SWFWMD's) investment in irrigation conservation and alternative water supply projects, SWFWMD's Southern Water Use Caution Area (SWUCA) rules, and cooperative funding programs will result in future reductions through conservation practices of all user groups, not just phosphate mining. The phosphate industry has led other water use sectors in conservation, resulting in a current water usage of 800 to 1,000 gallons per ton of rock produced or a reduction in usage from approximately 3,500 gallons per ton from historic levels (a 75% reduction).

CF believes the hydrological analyses reflected in the DAEIS could be improved by incorporating the following considerations.

First, the streamflow analyses presented in the DAEIS should be revised to incorporate a more reasonable estimate of surface water capture and use in the mine recirculation system. As noted in the DAEIS, the assumption of 100% capture is a conservative assumption (it over-predicts the potential impacts). However, the fact that an assumption is conservative does not necessarily mean it is reasonable. Assuming more capture than actually proposed for future mining and less capture than actually occurs for current mining results in predicted impacts that are significantly greater than what will actually result from the proposed mining. This is unreasonable because it ignores the contribution to average annual streamflow from both the groundwater outflow from the ditch and berm (recharge) system and the discharges from the mine recirculation system through the permitted National Pollutant Discharge Elimination System (NPDES) outfalls.

The assumption of 100% capture is unreasonably conservative because none of the proposed projects have sufficient storage capacity to capture and use all of the net rainfall (rainfall minus evapotranspiration minus deep recharge) that is captured behind their respective ditch and berm systems. As correctly stated in the DAEIS (Appendix E, pg. 23), the ability to capture and use surface water is related to the capacity of the recirculation system to store water. The only storage available in the mine recirculation system is the storage available within unreclaimed mine cuts prior to backfilling and the storage available in clay settling areas before they are filled with sedimented clay. Any water stored in these areas prior to filling will be displaced during filling with either sand or clay. An analysis conducted by Ardaman & Associates, Inc. (Ardaman), of the storage volume available in clay settling areas at any given time indicates that the volume available for water storage (i.e., the volume greater than the volume required for clay settling) is on the order of 5,000 acre-feet. It is not feasible to build additional storage because mined areas are typically not available to construct additional storage. Water storage

in the clay settling areas is limited to about 10 feet and a significant percentage of this volume is required to provide the necessary retention time for clay settling. Monthly water budget analyses indicate that a capture percentage in the range of 25 to 35% is a reasonable target for a modern phosphate mine. Although the quantity of groundwater used in the mining process per ton of phosphate rock produced could increase in the future if the relative clay content of the matrix increases, the quantity of surface water used per ton of phosphate rock is not expected to change significantly in the future, because the available storage capacity in the mine recirculation system will not change significantly.

The assumption of 100% capture is also contrary to the capture percentage proposed in both the SPE ERP Application and the Mosaic Water Use Permit (WUP) Application. Both applicants maintain accurate records of groundwater withdrawals used in the mining process, daily rainfall, area mined and reclaimed, and measured discharges through permitted NPDES outfalls. The water budgets prepared by both companies for the WUP and ERP applications are verified based on these data. Mosaic has proposed to capture and use approximately 20 to 30 percent, and CF has proposed to capture and use approximately 40 percent of the total streamflow contribution associated with the area separated from the stream systems by the perimeter ditch and berm systems. The data from the NPDES outfalls document that there is not enough storage in the recirculation systems to contain all of the net rainfall, particularly during years with above average rainfall. A significant quantity of net rainfall is used to maintain groundwater outflow through perimeter recharge systems at pre-mining levels. Furthermore, although water conservation practices have improved during the last decade, the design and operation of the perimeter recharge systems have also improved during the same time frame and a greater percentage of the net rainfall captured by the ditch and berm systems now leave the systems as groundwater outflow and is not available for makeup water to the system.

Accordingly, a reasonably conservative estimate of surface water capture for both current and future mining appears to be much closer to 50% than 100%. It is Ardaman's opinion that the streamflow analyses in the DAEIS would provide significantly better, yet still conservative predictions of present and future surface water quantity impacts, if the more reasonable estimate of 50% capture were used in the analyses.

Second, the capture area for current mining operations should be considered in the streamflow analyses. In general, the stormwater capture area moves across the mine site as new areas are mined and previously mined areas are reclaimed. These areas generally can be and are reconnected to downstream waters (and stormwater no longer captured) after the area is initially revegetated, so the period of capture is not extensive. The 2010 streamflow data sets represent the cumulative effects of all prior development in the subject watersheds. This data set already includes areas currently being captured behind the ditch and berm systems at all active mines. During the past ten years or more, both applicants have used as much of the captured water as possible as makeup to the recirculation system. This means that future mining, assuming steady-state capture, should not affect streamflow relative to the base year. Only if the capture area changes will a change in streamflow occur. Only the change in capture from the 2010 base year (plus or minus) should be used in the surface water cumulative impact analyses.

The current capture area within the Peace River basin above Arcadia is approximately 18,000 acres. The rate of reclamation for this capture area has equaled or exceeded the rate of mining since 1994 and will continue to exceed mining. Accordingly, the capture area continues to decrease with the proposed mining through 2045; a cumulative impact analysis based on the assumption of similar capture percentages for existing and proposed mines throughout the period predicts increased streamflow throughout the entire period. The current capture area within the Horse Creek basin above Arcadia is approximately 11,000 acres. With the addition of the Mosaic Wingate East, Ona and Desoto mines and the SPE project, the net area captured in the Horse Creek basin increases to a maximum of approximately 24,000 acres by about 2035. For Horse Creek, the net increase in area captured will result in reduced average annual stream flows relative to the No Action Alternative until 2035, after which average annual streamflow will increase in the basin. Nevertheless, because of predicted changes in other land uses in the basin, including urbanization (addressed in the following paragraph), the results of a cumulative streamflow analysis for both the applicants' Preferred Alternatives and the No Action Alternative indicate increasing average annual stream flows throughout the period between 2012 and 2060.

Third, the increase in average annual streamflow in the Peace River, Horse Creek and upper Myakka River sub-basins resulting from land use changes in the basin, which is unrelated to surface water capture by mining should be addressed more clearly in the FAEIS. For the No Action Alternative, the surface water analyses contained in the DAEIS predicts increases in the average annual streamflow in the Horse Creek and Peace River drainage basins for the entire period between 2020 and 2060. The average annual streamflow in Horse Creek measured at Arcadia is predicted to increase by approximately 6% (from approximately 200 cfs in 2020 to approximately 212 cfs in 2060, or an increase of about 12 cfs; DAEIS, Appendix E, Table 5, pg. 34). The average annual streamflow in the Peace River measured at Arcadia is predicted to increase by approximately 13% (from approximately 800 cfs in 2020 to approximately 900 cfs in 2060, or an increase of about 100 cfs; DAEIS, Appendix E, Table 5, pg. 34). These increases are projected solely from land use changes, predominantly urbanization, in the basins.

Fourth, the SWFWMD-mandated reduction of average annual agricultural withdrawals of 50 million gallons per day (77 cfs) from the SWUCA as described in the groundwater analysis section of the DAEIS (pg. 4-15) would increase streamflow in the three basins by an additional amount as a result of the decreased deep recharge to the FAS resulting from the reduction in pumping. This latter increase in flow was not included in the streamflow analyses.

Another reason the DAEIS analysis of water resources is overly conservative is based on its overestimation of groundwater pumpage for the proposed projects. This overestimation makes both the groundwater impacts analysis and the surface water impacts analysis in Chapter 4 overly conservative.

Actual pumping rates at Florida phosphate mines in the past have been significantly less than the SWFWMD-permitted rates for a variety of reasons. One of the most important reasons is the ability of many of the mines to use recycled water in the flotation cells. For many years, it was believed that flotation would not be as effective if water other than once-through FAS water was used in the flotation cells. This is the main reason why withdrawals are so much less today than in the past. Reuse of this water has resulted in significantly less withdrawals. Another important reason for smaller withdrawals than permitted is that the mining companies permit the withdrawals required during drought periods assuming no stored water is available at the end of the preceding year. The current requested quantities assume a 1-in-5 year drought. Withdrawals during average or above-average rainfall years are significantly smaller than withdrawals during extended drought periods.

**H. Water Quality (Chapters 2 and 4)**

The overwhelming majority of the data show all basins affected by mining to be in compliance with water quality standards. This is confirmed by industry NPDES monitoring data records. CF monitoring data for the South Pasture likewise shows compliance. Any changes in water quality standards that become effective in the future will be incorporated into the NPDES permits that are required for the proposed projects. The DAEIS should recognize, however, that, unlike the directly correlated industry data, some of the studies utilized are based on a small number of sites and samples, and in some cases what those sites exhibit is inconsistent with the more apparent general pattern for some constituents. Attachment I (Water Quality and Biological Evaluation of Payne Creek) has concluded that water quality in Payne Creek, into which all discharges from CF's existing South Pasture mine flow, is equivalent to or better than water quality in other streams in the region meeting Class III standards. Extensive biological sampling performed for that study indicates the presence of a very healthy invertebrate community (based on the Stream Condition Index), as well as a diverse community of native fishes. The stream has maintained this positive chemical and biological condition as more than 75 percent of its watershed was mined for phosphate, including ongoing mining activities on South Pasture. These data further support the assertion that mining activities, as conducted with modern techniques and appropriate BMPs, do not have significant adverse direct, secondary or cumulative impacts on water quality or stream aquatic resources within phosphate mining watersheds.

**I. Economic Resources (Section 4.7; 4.12.3.6).**

For decades, phosphate mining has been a major economic driver of the economy of Central Florida and the surrounding region. As a vital ingredient to a stable domestic food supply, phosphate and the activities required to process and transport this vital mineral reach far beyond the mine site in shaping a significant economic

profile for Central Florida. In fact, estimates indicate every job provided by the industry accounts for at least five other positions through impacts on shipping, transportation, and other supporting industries. The future of the phosphate industry, and the regional and statewide economic advantages derived from it, will undoubtedly be impacted by the pending evaluations and determinations by the Corps.

Based on the DAEIS, the importance of the phosphate mining industry to the local and regional economy is clear – if pending applications are not approved, there will be a "significant decline in output and employment." CF concurs that cessation of mining will have devastating economic impacts. We simply cannot afford to lose such an important base of economic viability. An economic study conducted for the Port of Tampa concluded the phosphate industry is responsible for 67,000 total direct or indirect jobs in the region and an estimated $5.8 billion of total economic impact. This economic engine is critically linked to the continuation of future phosphate mining proposed in the applications considered in the DAEIS and pending before the Corps. See Attachment G.

As the DAEIS indicates, the economic future of counties impacted by phosphate mining operations will be significantly influenced by the Corps' FAEIS and its permitting decisions. CF requests that the DAEIS be clarified to recognize that, in light of the positive economic effects if the proposed projects go forward and negative effects of the No Action Alternative, the proposed projects will have a positive effect on the human environment.

**J. Environmental Justice (Chapter 4)**

It is CF's position that the proposed projects in Hardee County provide positive and demonstrable economic benefits to existing minority and low-income populations and do not disproportionately burden those communities. The economics data supporting the DAEIS demonstrates this; additional information supporting this conclusion is attached.

The largest minority employer in Hardee County relies heavily on business from CF. See Attachment I. As Section 4.7 and 4.12 of the DAEIS and Appendix F clearly demonstrate, phosphate mining in Hardee County occurs in relatively rural, unpopulated areas. No disadvantaged communities will be displaced by CF mining operations. CF provides higher-paying, more stable jobs than can be provided by the agricultural industry and significantly higher tax revenues for the County and for the State in terms of both mineral severance taxes and property taxes. Additional severance tax revenues are provided to Hardee County based on its status as a Rural Area of Critical Economic Concern (RACEC). These jobs and tax revenues are only available if phosphate extraction occurs.

In part through revenues from its Hardee Phosphate Complex, CF is able to contribute substantially to charities in the community that serve low-income and minority populations. For example, from 2007-2012, CF employees and the company contributed over $500,000 to the United Way to the benefit of Central Florida organizations. See Attachment I (Environmental Justice). This support can continue with the continuation of mining in the SPE. CF was also recognized in 2011 by the Florida Education Foundation and the Hardee County school system for its "exemplary support of public education" which low income and minority populations depend upon. See Attachment I. CF has a long history of fostering long-term partnerships with small local charities in the Region who provide basic social services, youth sports programs, and economic assistance to minorities and low-income citizens. These contributions and partnerships would not be possible if the No-Action alternative were implemented. Further, CF has a multi-faceted outreach program to the Hardee community. CF hosts regular meetings with a Community Advisory Panel and regular business briefings with local business, civic and community organizations to keep them informed about CF's operations.

**K. Mitigation Strategies (Chapter 5)**

CF strongly agrees that the Florida phosphate industry conducts wetland mitigation with large-scale system connectivity and the overall watershed in mind. (Section 5.3.1., p. 5-2, lines 29 30). As Section 3.3.5 in the DAEIS clearly states, much of the wetland acreage proposed to be impacted by mining was previously degraded by other non-mining land uses. In addition, the DAEIS presents fact-based technical information related to the evolution of mitigation techniques within the phosphate industry. The DAEIS also provides a thorough explanation of mitigation components, the different mitigation mechanisms, and an overview of the technology

and techniques the mining industry currently utilizes to achieve successful mitigation. However, CF believes that more in-depth discussion in the FAEIS (or Appendix) of the data in the record relative to phosphate industry mitigation, in particular, its efficacy in assuring no net loss of waters of the United States, would strengthen this chapter and allow for a better comparison of the alternatives set forth in Chapter 4. Further, CF believes additional information regarding CF's expertise in effecting on-site mitigation on its mined lands should be included. See Attachment E (Reclamation Package) and the discussion below.

Chapter 5 (Mitigation) should recognize that the applicants are uniquely qualified to provide on-site, permittee-responsible mitigation that achieves the goals of the Compensatory Mitigation Rule far better than mitigation banking or in-lieu fee mitigation, as further discussed below.

The Compensatory Mitigation Rule (33 CFR Parts 325 and 332), is designed to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function and to increase the efficiency and predictability of the mitigation project review process. CF acknowledges this fact and provide the following information in support of the phosphate industry permittee-responsible mitigation method as a demonstrated effective way to achieve the goals of mitigation, consistent with the intent of the Compensatory Mitigation Rule.

Compensatory mitigation is a young science, with the earliest wetland creation projects being constructed in the mid-1970s. Modern phosphate mine reclamation also began at that time and has been continually evolving as technology improves, associated regulations become more stringent, and the socio-political environment changes (Durbin et. al., 2008). In contrast, mitigation banking did not exist until 1982 and the first entrepreneurial credit sale did not occur until 1994 (Hough and Hall, 2005).

The industry-standard permittee-responsible onsite mitigation meets the intent of the Compensatory Mitigation Rule. According to the April 2008 Notice published in the Federal Register, this rule "improves the planning, implementation and management of compensatory mitigation projects by emphasizing a watershed approach in selecting compensatory mitigation project locations, requiring measurable, enforceable ecological performance standards and regular monitoring for all types of compensation and specifying the components of a complete compensatory mitigation plan, including assurances of long-term protection of compensation sites, financial assurances, and identification of the parties responsible for specific project tasks."

The rule emphasizes that the process of selecting a location for compensation sites should be driven by assessments of watershed needs and how specific wetland restoration and protection projects can best address those needs; requires measurable and enforceable ecological performance standards for all types of compensation so that project success can be evaluated; requires regular monitoring to document that compensation sites achieve ecological performance standards; clearly specifies the components of a complete compensation plan based on the principles of aquatic ecosystem science; and emphasizes the use of science-based assessment procedures to evaluate the extent of potential water resource impacts and the success of compensation measures.

In 2003 the Florida Legislature mandated a study of the cumulative effects on landforms and hydrology primarily due to mining, agriculture, and urbanization in the Peace River basin. The results of this study were used to prepare a management plan for the Peace River basin to minimize existing and potential future adverse cumulative impacts to the resources of the basin. The DAEIS considered key factors in the cumulative effects evaluation including the Peace River Cumulative Impact Study (PRCIS) results. Based on this evaluation provided in Section 4.12.1.5 of the DAEIS, the cumulative impacts from the currently proposed projects, as well as reasonably foreseeable mines, are reasonably expected to be insignificant. Industry-implemented onsite compensatory mitigation, in conjunction with avoidance and minimization of wetland impact, allows for the

preservation, restoration, enhancement, and creation of onsite resources integral to the local watershed, which offsets cumulative effects. In addition, CF's Preferred Alternative aids in the recovery from some of the historic resource losses documented in Chapter 2 (through the addition of wetland acreage and stream length back to the basin) and adds protection to several un-impacted riparian areas, in perpetuity.

CF suggests that the purposes of the IHN (on which the PRGI purports to be PRGI based) be clarified in the FAEIS. The FDEP BMMR outlined its concept for the IHN plan in 1992 in its publication "A Regional Conceptual Reclamation Plan for the Southern Phosphate District of Florida." The IHN is a guide for the reclamation of mined phosphate lands throughout this area that endeavors to maximize habitat replacement, connection and water resource protection. Within the IHN, the largely undisturbed riverine floodplain lands make up the "core," while the adjacent reclaimed "buffer" lands complement and enhance the habitat value of the core lands. With appropriate management, these areas would benefit the water quality and quantity in the area, improve wildlife habitat, and serve as connections between the mining region's rivers and significant environmental features outside the mining region. This purpose is not fully articulated in the DAEIS and therefore should be incorporated into the FAEIS.
The FAEIS should better recognize the exhaustive and extensive avoidance/mitigation/ reclamation plan submitted by CF as its Preferred Alternative; the reclamation/mitigation proposed by the applicant will achieve greater regional ecological benefits than simply avoiding and buffering all resources of a certain type. See FDEP Final Order and Proposed Recommended Order CF SPE ACOE Application, Excerpts (Attachment D). Thus, as noted above, alternatives assessments should be based on the ability to achieve regional ecological benefits based on an evaluation of the actual quality and function of the wetlands or surface waters at issue once the permit-required and Corps-enforceable mitigation has been implemented; that is a basic premise of NEPA. Requiring avoidance simply based on surface water type or inclusion in a regional dataset can prevent reclamation plans from achieving that regional goal, and this should be recognized in the FAEIS.
A key component of the overall strategy for maintaining habitat for populations of protected species is the avoidance of mining disturbance in the areas of highest habitat quality. Avoidance of these areas will provide benefits to listed and non-listed species by protecting the best native wildlife and plant habitat and by providing contiguous wildlife corridors. In addition, these areas will also serve as the primary source from which plants and wildlife will re-colonize reclaimed native habitats. Further, reclamation community types that are appropriate for a more intensive, compatible human use are strategically placed within the landscape away from sensitive community types. Phosphate reclamation plans can accomplish this in a manner that other development mitigation plans cannot, given the requirement under state law to reclaim all mined and disturbed land to some beneficial use and to provide on-site acre-for-acre, type-for-type replacement of impacted wetlands and streams and the ability of the applicant to cluster the reclaimed lands in landscape locations that meet multiple local and regional goals. CF has an exemplary record of creating successful mitigation areas and believes implementation of this plan at the SPE will likewise be successful. See Attachment E.

The evolution and improvement of mitigation/reclamation techniques can be generally separated into three categories: Landscape Level considerations, Site-Specific considerations, and Management and Monitoring considerations. These categories were used by Durbin, et. al. (2008) in providing recommendations for continued improvement in the creation of wildlife habitat on reclaimed lands. Many of these recommendations are evident in the pending applications and some have been retroactively implemented on previously issued permits. It is also important to note that many of these recommendations may only be implemented onsite once mining is complete; however, others are offered as "up-front" compensation prior to mining.

Landscape Level considerations achieved on-site include the permanent protection of thousands of acres through conservation easements. This acreage includes the preservation of high-quality wetlands and upland buffers, as well as enhancing areas within the No Mine Boundary as mitigation provided prior to mining (enhancement and preservation). Wetland impacts are then staggered throughout the mine life, which allows for

additional mitigation to occur concurrent with those impacts. Current plans also include the permanent protection (through conservation easements) of unmined lands and additional reclaimed areas after mining to provide additional buffers from future development. The integration of these permanently-protected areas with adjacent reclaimed habitats provides the backbone of the IHN, reducing fragmentation in the post-reclamation landscape.

One important Site-Specific consideration incorporated into CF's proposed mining and mitigation plans is extensive integrated surface water/groundwater hydrology modeling; as recognized in the DAEIS, CF has been conducting some form of integrated modeling for over 15 years. The MIKE-SHE modeling used to develop the SPE post-reclamation landforms and landscape provides a high level of certainty that post-reclamation water levels within restored, created, enhanced or preserved wetlands will sustain the systems planned. Because of predictive integrated modeling and advanced technology, mitigation hydrology is more consistent in both the preserved and reclaimed areas. If the hydrology is correct, then the appropriate vegetation is readily established and naturally sustaining. Additional site–specific considerations included in the current plan are the use of sand tailings as the base for all wetland construction and direct transfer of native topsoil and/or muck to increase native plant species diversity, as well as tree-spading to increase structural diversity prior to natural recruitment/establishment. This level of detail is rarely offered with other development mitigation plans, and the resources to conduct these complex techniques are not typically available in development or mitigation bank construction projects. Mining provides the opportunity to implement these types of site-specific practices that are not feasible (or rarely conducted) in a mitigation bank (Brown and Carstenn, 2009). For example, CF has pioneered stream restoration techniques at the South Pasture that have been refined for the SPE; those techniques have been effective at restoring stream functions. CF is aware of no mitigation banks in the state that offer "stream credits." See CF's SPE ACOE Application, Stream Restoration Plan. In addition to the above comparisons, mitigation banks serving the Peace River watershed have insufficient forested and non-forested credits available for the projects and the bank's credits would then be depleted for use by other development for which on-site mitigation is not desirable (e.g., a shopping mall).

Current Wetland Mitigation Bank Credits Available in Service Area*:

| | | | | State Credits | | | | Federal Credits | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Available | Available | To Be Released | To Be Released | Available | Available | To Be Released | To Be Released | | |
| Bank Name | Basin | State Credit Type | Federal Credit Type | Non-forested | Forested | Non-forested | Forested | Non-forested | Forested | Non-forested | Forested | Woodstork Availability | Future Planned Expansion |
| Boran Ranch | Peace River | UMAM | WRAP | 36.65 | - | 4.38 | - | 13.13 | - | 99.08 | - | Yes | Yes-2013 |
| Peace River | Peace River | UMAM | UMAM | - | 42.39 | - | 35.86 | - | 23.54 | - | 43.32 | Yes | Yes-2015 |
| Myakka | Myakka River | UMAM | UMAM | 45.65 | 8.49 | 66.35 | 87.81 | 22.15 | 9.76 | 97.12 | 89.44 | No | No |

*Collected from the SWFWMD WMIS ERP Database

Please see next page.

The most recent developments in Management and Monitoring considerations have also been incorporated into the permittee-responsible onsite mitigation plans proposed by the phosphate industry. For wetlands, mitigation success is measured using established success criteria for several parameters including vegetative community composition and survivorship, hydrology, exotic species abundance, and wildlife usage. The time required to reach mitigation success varies based on the type of wetland targeted and site conditions. Opinions vary regarding the time that created wetlands require to reach full functionality; however non-forested wetlands, such as marshes and wet prairies, reach final successional stages faster than forested wetlands. Kiefer (1991) reported that with good initial establishment and weed control, marshes reclaimed on mined land tended to reach final successional stages relatively quickly, often in less than 5 years. Forested wetlands take longer to mature, primarily due to tree growth, and typically require more weed management and supplemental plantings (Kiefer, 2011; Brown and Carstenn, 2009). However, these have also been successfully established on mined lands. See Attachment E.

All of these above variables result in functional systems well prior to final regulatory release. CF has demonstrated a legacy of creating functional systems onsite that adequately meet the compensatory mitigation requirements to offset functional losses, as documented in the DAEIS mention of FDEP's review of released reclamation wetlands. This review was conducted using UMAM, which is a Corps-accepted method of measuring wetland function and calculating mitigation necessary to offset wetland impacts. A similar review of unreleased wetlands created at CF also revealed high functional value while on the positive trend toward release from regulatory responsibility. See Appendix E (Reclamation Package). UMAM is an effective tool in measuring change in function and has been routinely used in Florida to demonstrate the value of permittee-responsible onsite mitigation. It should be noted that the "reported released" acres in the DAEIS fail to recognize that "release" is a regulatory concept that understates the acres of wetlands that have been functionally replaced on mined lands, due to monitoring, vegetation maturation, and CF's practice of seeking release not of individual wetlands but of larger integrated blocks of land where fully functioning wetlands exist, for which release has not been sought. See Attachment E.

Despite the differences between permittee-responsible onsite mitigation and mitigation banks highlighted in the Compensatory Mitigation Rule, there are several similarities, especially when considering the scale at which the phosphate industry operates, the technical expertise in mitigation science, the planning and permitting required, and the financial assurances provided by the applicants. For instance, the SPE site is large enough to complete mitigation that provides watershed-scale mitigation benefits greater than many banks within the SWFWMD. The mean size of the permitted mitigation banks within the SWFWMD is approximately 397 acres. The mean size of the post-reclamation wetland acreage of the four proposed mines is approximately 3,680 acres and many more acres of uplands and streams would also be proposed. This represents well over a ten-fold difference in total acreage where mitigation would occur, as well as an increase in wetland acreage by a mean of 25.5% (DAEIS Table 5.1 through 5.4). Specifically, as to CF, its SPE Preferred Alternative will result in a 9% increase in on-site wetlands and a 14% increase in on-site streams. The phosphate industry has a history of ever-improving wetland mitigation efforts that date back over two decades prior to mitigation banks and employs the latest scientific and technical methods to achieve functional replacement (as well as acreage) of impacted wetlands. In addition to the greater size by the proposed mines, the expertise held by CF staff and consultants in the hydrology and ecology of wetland creation on mined lands is unparalleled. On-site permittee-responsible mitigation within the industry is conducted on a watershed scale and serves to replace functions of lost wetlands as well as improve functions of areas preserved within the mine.

**Table 1: USA Phosphate Production, Exports, and the Global Market**

Million Tons P2O5

| | | % 2000 [1] | % 2010 [2] | % 2011 [3] | 2000 USA [4] | 2000 World [5] | 2010 USA [6] | 2010 World [7] | % change tonnage USA [8] | % change tonnage World [9] | 2011 [10] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | **Reserves**: US/World: | | | 1.2* | | | | | | | 1,400 | USA |
| 1b | | | | | | | | | | | 71,000 | World |
| 2a | **Phosphate Rock (PR) production**: US/World | 25.3 | 13.4 | 14.9* | 11.6 | | 7.5 | | -35.3 | | | USA |
| 2b | | | | | | 45.9 | | 56.0 | | 22.0 | | World |
| 3a | **Production**: MAP-N: US/World | 43.7 | 24.3 | | 2.5 | | 2.7 | | 8.0 | | | USA |
| 3b | | | | | | 5.7 | | 10.9 | | 91.2 | | World |
| 4a | DAP-N US/World | 44.5 | 21.5 | | 5.2 | | 3.3 | | -36.5 | | | USA |
| 4b | | | | | | 11.7 | | 15.1 | | 29.1 | | World |
| 5a | MAP + DAP - N US/World | 44.2 | 22.7 | | 7.7 | | 5.9 | | -23.4 | | | USA |
| 5b | | | | | | 17.3 | | 26.0 | | 50.3 | | World |
| 6a | Phosphoric Acid -N US/World | 37.8 | 21.0 | | 10.5 | | 8.4 | | -20.0 | | | USA |
| 6b | | | | | | 27.8 | | 39.9 | | 43.5 | | World |
| 7a | **Exports:** Phosphate Rock-N | 0.0 | 0.0 | | 0.0 | | 0.0 | | | | | USA |
| 7b | | | | | | 10.0 | | 9.6 | | -4.0 | | World |
| 8a | MAP-N: US/World | 44.6 | 31.7 | | 1.1 | | 0.9 | | -18.2 | | | USA |
| 8b | | | | | | 2.6 | | 2.8 | | 7.7 | | World |
| 9a | DAP-N: US/World | 55.0 | 26.1 | | 3.2 | | 1.9 | | -40.6 | | | USA |
| 9b | | | | | | 5.9 | | 7.4 | | 25.4 | | World |
| 10a | MAP + DAP - N: US/World | 51.8 | 27.6 | | 4.4 | | 2.8 | | -36.4 | | | USA |
| 10b | | | | | | 8.4 | | 10.2 | | 21.4 | | World |
| 11a | Phosphoric Acid -N: US/World | 5.7 | 9.1 | | 0.3 | | 0.4 | | 33.3 | | | USA |
| 11b | | | | | | 4.6 | | 4.7 | | 2.2 | | World |
| 12a | US Rock Imports/World Rock Imports | 7.0 | 9.4 | | 0.7 | | 0.9 | | 28.6 | | | USA |
| 12b | | | | | | 10.0 | | 9.6 | | -4.0 | | World |
| 13a | US Rock Imports/ US Apparent Consumption** | 5.8 | 11.0 | | 0.7 | | 0.9 | | 28.6 | | | USA |
| 13b | | | | | | 11.6 | | 7.5 | | -35.3 | | World |
| | **Share of US exports in US production:** | | | | **US X** | **US Prdtn** | **US X** | **US Prdtn** | | | | |
| 14a | Rock-N | **0** | **0** | | **0** | | **0** | | | | | **US: Exports** |
| 14b | | | | | | 11.6 | | 7.5 | | -35.3 | | Prdction |
| 15a | MAP-N | 46.2 | 33.0 | | 1.1 | | 0.9 | | -18.2 | | | Exports |
| 15b | | | | | | 2.5 | | 2.7 | | 8.0 | | Prdction |
| 16a | DAP-N | 62.0 | 59.6 | | 3.2 | | 1.9 | | -40.6 | | | Exports |
| 16b | | | | | | 5.2 | | 3.3 | | -36.5 | | Prdction |
| 17a | MAP + DAP - N US/World | 56.9 | 47.6 | | 4.4 | | 2.8 | | -36.4 | | | Exports |
| 17b | | | | | | 7.7 | | 5.9 | | -23.4 | | Prdction |
| 18a | Phosphoric Acid -N US/World | 2.5 | 5.2 | | 0.3 | | 0.4 | | 33.3 | | | Exports |
| 18b | | | | | | 10.5 | | 8.4 | | -20.0 | | Prdction |

Source: IFA website, http://www.fertilizer.org/ifa/HomePage/STATISTICS, accessed July 17, 2012.
* USGS Jan. 2012
N - denotes "nutrient content of P2O5
** Apprent Consumption is Production minus Exports plus Imports.

Submission number 557

| | |
|---|---|
| **Submission Number:** | 000000557 |
| **Received:** | 07/31/2012 12:00:00 PM |
| **Organization:** | Mosaic, Deedra Allen |
| **Commenter Type:** | Company |
| **Classification:** | Undetermined |
| **Category:** | Unspecified |
| **Submitted As:** | Other |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | Attachments are on the CH2M HILL Groups Server at \\tampa\grou |

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|---|---|
| **Primary Commenter:** | ◉ |
| **Commenter ID:** | 52819 |
| **Hide Submitter:** | ☐ |
| **Commenter Type:** | Company |
| **Name Prefix:** | |
| **First Name:** | Deedra |
| **Last Name:** | Allen |
| **Name Suffix:** | |
| **Title:** | |
| **Organization:** | Mosaic |
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| **Address Line 1:** | 13830 Circa Crossing Drive |
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| **Email:** | |
| **Number of Additional Commenters:** | |

Please see next page.

Attachments are on the CH2M HILL Server at
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Dear Sir or Madam:
Mosaic Fertilizer, LLC (Mosaic) submits these comments on the Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphatc District (AEIS) issued for public comment on May 22, 2012. Mosaic is the applicant for certain Corps of Engineers (Corps) permits that are being addressed in the AEIS. Mosaic commends the Corps for the comprehensive work that has gone into the draft AEIS.

As the Corps made clear, tltis AEIS will provide information to support compliance with the National Environmental Policy Act (NEPA) for certain pending applications under Section 404 of the Clean Water Act, including Mosaic's applications for the Ona and Desoto mines, and the extension of the Wingate mine (referred to as Wingate East).

The over-arching goal of this AEIS is to inform agencies, other stakeholders, and the public of the impacts of and alternatives to the four similar permit applications for phosphate mines. The AEIS is to support regnlatory decisions to be made by thc USACE and other agencies regarding the four specilic proposed mine projects. A secondary function is to inform USACE regulatory decisions regarding future phosphate mining perntit applications. AEIS, Section 1.4.

The AEIS provides information based on sound science on the cumulative impacts of phosphate mining in the Central Florida Phosphate District. This NEPA document provides information pertinent to its forthcoming regulatory decisions.

We appreciate the fact that the Corps has established and kept to a schedule for the AEIS, including release of the draft document. The comprehensive nature of the draft AEIS provides a sound foundation for the Corps to keep to its published schedule for release of the final AEIS in December.

Enclosed with this letter are technical comments designed to be helpful to the final AEIS. Mosaic believes that these technical corrections will improve, but do not fundamentally change, the draft AEIS. If you have any questions about any of the enclosed information, please feel free to contact me.
Sincerely,
Deedra Allen

**Executive Summary**

**E:1 ES-3 29-31** "The effects of phosphate mining on groundwater quality and levels, including potential cumulative effects of mining on regional aquifers, especially associated with use of the Floridan aquifer for industrial water supply." **REPLACE WITH** "The effects of phosphate mining on groundwater quality and levels, including potential cumulative effects of mining on regional aquifers, especially associated with use of the Floridan aquifer for mining water supply."
Technical correction. SWFWMD has a separate category for mining water use.

**E:2 ES-5 22-24** "The operations plan calls for the Desoto Mine production to replace that of the existing South Fort Meade Mine (including the extension into Hardee County) with no overlapping periods of mining operation."**REPLACE WITH** "The operations plan calls for the Desoto Mine production to replace that of the existing South Fort Meade Mine (including the extension into Hardee County) with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up."
Technical correction.

**E:3 ES-7 2-4** "As proposed in the permit application, mining would impact 3,130 acres of wetlands and approximately 62,446 linear feet of streams meeting the Waters of the United States criteria." **REPLACE WITH** "As proposed in the permit application, mining would impact 3,252.8 acres of wetlands and approximately 64,474 linear feet of streams meeting the Waters of the United States criteria."

Technical correction. See acres and linear feet tables in Attachment F.

**E:4 ES-7 9-11** "The operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing Four Corners/ Lonesome Mine, with no overlapping period of mining operations." **REPLACE WITH** "The operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing Four Corners Mine with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up."
Technical correction. 1-17;4-12

**E:5 ES-7 19-21** As proposed, the mining would impact 4,593 acres of wetlands and approximately 136,731 linear feet of streams meeting the Waters of the United States criteria. **REPLACE WITH** "As proposed, the mining would impact 4,615.1 acres of wetlands and approximately 136,731 linear feet of streams meeting the Waters of the United States criteria."
Technical correction.See acres and linear feet tables in Attachment F.

**E:6 ES-7 25-26** "The existing Wingate Creek Mine production capacity rate is approximately 1.3 Mt per year." **REPLACE WITH** "The existing Wingate Creek Mine production rate is approximately 1.4 million tonnes (1.5 Mt) per year." Additional/updated information.

See Mosaic Co., Annual Report (Form 10-K) (July 2012), which lists production capacity in metric tons. 1-19
E:7 ES-7 26-28 "The operations plan calls for phosphate rock production at the Wingate East Mine to replace that of the existing Wingate Creek Mine (and the recent Wingate Extension) with no overlapping periods of operation." "The operations plan calls for phosphate rock production at the Wingate East tract to extend and be a continuation of the life of the existing Wingate Creek Mine (and the recent Wingate Extension) without an interruption of operation." Suggested clarification.

Wingate East is not a replacement mine, but an extension of the Wingate Creek mine. 1-12;
1-19;
4-29; Tbl. 4-5

Section ES.6.4
E:8 ES-12 Tbl. ES-1 Correct figures using the tables found in Attachment F. Technical correction.

Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F.
Section ES.6.1
E:9 ES-15 Tbl. ES-2 Correct figures using the tables found in Attachment F. Technical correction.

Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F.

E:10 ES-18
to
ES-21 Tbl. ES-5
to
ES-11 Correct figures using the tables found in Attachment F. Technical correction.

Several of the acreages in these tables are incorrect. See acres and linear feet tables in Attachment F.

Tbl. 4-55
to

4-61

E:11 ES-19 Tbl. ES-8 Table ES-8. Effects of Setback to Avoid Peace River "Greenway" System The acreage may be correct, but the map is wrong - see Map labeled, Alternative 4 (Wingate East Mine) Appendix A, pg A5-3, but both should be checked. Technical correction.

Appendix A, pg A5-3 identifies a 500 foot setback area in the northwest corner of Wingate East as part of the Peace River "Greenway", but this area is not in the Peace River watershed. Note, however, that the northeast corner of Wingate East contains a portion of the West Fork of Horse Creek, a perennial stream in the Peace River watershed.

4-158; Tbl. 4-58
Section E.S.6.2.1
E:12 ES-22 11-14 "This has led to salt water intrusion into the FAS along the Gulf coast, and reversal of aquifer flow gradients in the Upper Peace River and adjacent watersheds leading to reduced groundwater contribution to river baseflows and lowered lake and wetland stages in this portion of the overall Peace River watershed." "This has led to salt water intrusion into the FAS along the Gulf coast, and reversal of aquifer flow gradients in the Upper Peace River leading to reduced groundwater contribution to Upper Peace River base flows and lowered lake and wetland stages in the Upper Peace River watershed." Suggested clarification.

There is no evidence that all river systems in the watershed have experienced direct effects from a lowering of the FAS due to groundwater pumping. Systems in the southern portion of the basin are highly confined and do not communicate with the UFAS as systems in the northern portion of the District. See SWFWMD, Predicted Change in the Hydrologic Conditions along the Upper Peace River due to a Reduction in Ground-Water Withdrawals (July 2003); Predicted Change in Hydrologic Conditions along the Upper Peace River due to a Reduction in Groundwater Withdrawals (Basso, 2003); and SWFWMD, Eastern Tampa Bay Water Resource Assessment Project (1993).
3-58
E:13 ES-22 22-23 "Modeling of the other two individual projects was not performed because those are extensions of existing mines; no new FAS water allocations are involved in their operations." "Modeling of the other two individual projects was not performed because those are extensions of existing mines and no new groundwater withdrawals or quantities are anticipated to be needed." Suggested clarification.

New groundwater withdrawals or quantities are not anticipated, but future adjustments in water use and/or self-relocation of groundwater withdrawals could be needed to support future mining area extensions.

4-9; 4-12; 4-82; App. D, 30
E:14 ES-22 31-32 "In contrast, the Ona Mine includes new FAS water wells to be constructed as elements of the project." "While in contrast, the Ona Mine includes new FAS water wells to be constructed as elements of the project, it is worth noting that because these wells represent permitted quantities, per SWFWMD rules they are not considered "new quantities" with respect to permitted withdrawals." Suggested clarification.

Although this statement is accurate, it is worth noting that these are existing permitted quantities and per District rules are not considered new quantities.
Section ES.6.2.2
E:15 ES-23 26-28 "Thus, this area is taken out of a given watershed's surface water contributions to the watershed's water budget except as allowed through discharges from the permitted National Pollutant Discharge Elimination System (NPDES) outfalls." "Thus, this area is taken out of a given watershed or subbasin's surface water contribution to the watershed or subbasin's water budget except through discharges from the permitted NPDES outfalls and contributions from the ditch and berm system—in the form of groundwater recharge—maintaining groundwater contributions to adjacent wetlands and stream systems." Technical correction.

Add term "subbasin" to match text on Page 3-77; further, this statement omits water contributions resulting from groundwater recharge. 3-77

E:16 ES-24 to ES-25 Figs. ES-5, ES-6 Revise legend for figures to replace "Drawdown Contour Lines" with "Water Level Contours." Suggested clarification.

The legend of these figures (and all other simulated groundwater level tables) identifies contour lines as "Drawdown Contour Lines." These labels are potentially misleading because most of the modeling figures indicate recovery or rebound of groundwater levels. We suggest that the label be changed to "Water Level Contours" on all relevant figures. We also suggest that the Most Impact Area (MIA) be included on all contour figures. The MIA is important since it is discussed in several places within the document, such as sections 3.3.7.6, 4.4.1, and 4.12.2.2.
Figs. 4-20;
4-21;
4-22;
4-23;
4-28;
4-29;
4-63
to
4-78
E:17 ES-26 25-26 "This mine is located in the Upper Myakka River Watershed." "This mine is primarily located in the Upper Myakka River Watershed, with about 10% of the area in the Peace River Watershed." Technical correction.

As demonstrated by Figure 2 of Appendix E, a portion of the northeast corner of the Wingate East is located in the Peace River Watershed. 4-17; 4-92
Section ES.6.3
E:18 ES-28 2-4 "The mines attempt to hold as much of the rainfall captured on their land areas within the ditch and berm system at any given time in order to meet their recirculation system capacity needs. Discharges occur when the system's capacity is exceeded." "The mines manage rainfall capture to reduce reliance on groundwater by building water inventory throughout the rainy season to ensure adequate water supply throughout the dry season. This is accomplished through rainfall captured on their land areas within the ditch and berm system." Technical correction.

The objective of mine water management is to retain only the quantity of water necessary to operate the recirculation system. Water balance calculations show that generally 20 to 40% of rainfall within the ditch and berm system is actually captured. See Attachment A. 3-35
Section ES.7.2
E:19 ES-31 31-34 "Groundwater modeling of the Floridan aquifer water levels indicated that regardless of the phosphate mining scenarios simulated, regional water levels in the FAS are predicted to increase over most of the model domain as agricultural water use allocations within the SWUCA are gradually reduced by SWFWMD restrictions to be achieved by the year 2025." "Groundwater modeling of the Floridan aquifer water levels indicated that regardless of the phosphate mining scenarios simulated, regional water levels in the FAS are predicted to increase (a rise in level) over most of the model domain as agricultural water use allocations within the SWUCA are gradually reduced by SWFWMD restrictions to be achieved by the year 2025. Although agricultural water use has, and is expected to continue to decrease due to land use transition coupled with SWFWMD's investment in irrigation conservation and alternative water supply projects, the SWUCA rules and cooperative funding programs contemplate future reductions through conservation practices by all user groups. Some of the largest historical decreases in permitted and actual use quantities, as well as FAS recoveries within the SWUCA have been associated with the reduction of water use for phosphate mining." Suggested clarification.

Although agricultural water use has, and is expected to continue to, decrease due to land use transition coupled with

SWFWMD's investment in irrigation conservation and alternative water supply projects, the SWUCA rules and cooperative funding programs look to future reductions through conservation practices of all user groups, including phosphate mining. It would be helpful to clarify that agricultural water use reductions are only are part of the reason for the increase in FAS water levels. 4-15

E:20 ES-32 4-6 "As currently operating mines cease withdrawing groundwater from the FAS, localized water level rebound will occur and this would contribute to the regional FAS water level improvements, albeit by relatively modest amounts." "As currently operating mines cease withdrawing groundwater from the FAS, localized water level rebound will occur and this would be expected to contribute to material regional FAS water level improvements." [Delete rest of sentence] Suggested clarification.
This statement is not entirely consistent with the analyses and figures within the draft AEIS which indicate that a substantial geographic area will experience water level recovery as mining operations migrate south. Therefore, removal of the phrase "albeit by relatively modest amounts" would be appropriate.

E:21 ES-32 11-13 "As spring discharge and baseflow contribution to rivers depend on the potentiometric surface of the FAS, an increase in the potentiometric surface of the FAS can be expected to result in additional springflow and/or groundwater contribution to rivers."

"In areas within the CFPD where the FAS is not well confined, spring discharge and baseflow contribution to rivers depend in part on the potentiometric surface of the FAS. In those areas, an increase in the potentiometric surface of the FAS can be expected to result in additional springflow and/or groundwater contribution to rivers. In areas of the CFPD where the FAS is well confined, as is the case in the southern portions of the CFPD, increases in the potentiometric surface of the FAS will have limited effects on springflow and/or groundwater contribution to rivers." Suggested clarification.

It is not universally true across the entire region. Areas in the southern portion of the District are highly confined and surface water flows in some of the southern systems are not related to/heavily influenced by FAS water levels.

See SWFWMD, Predicted Change in the Hydrologic Conditions along the Upper Peace River due to a Reduction in Ground-Water Withdrawals (July 2003); Predicted Change in Hydrologic Conditions along the Upper Peace River due to a Reduction in Groundwater Withdrawals (Basso, 2003); and SWFWMD, Eastern Tampa Bay Water Resource Assessment Project (1993). 4-231
Section ES.7.3
E:22 ES-32; 34 Fig.
ES-7;
ES-8 Figures ES-7 and ES-8 show increase to Peace River and Horse Creek flow, with no explanation of the increase Suggested clarification.

Need to explain the increase in flow to put in context decreased flow due to phosphate mining; maximum capture is overstated at 100%. See Attachment A. 4-23
E:23 ES-32 24 ". . . approximately 27 cfs, or 16 percent." ". . . approximately 27 cfs, or 13.5 percent." Technical correction.

27/200 = 13.5% However, the analysis needs updating in accordance with surface water capture discussion, in Attachment A. 4-232

Submission number 558

July 27, 2012



Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Dear Mr. Fellows:

Caterpillar Global Mining Field Service supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS.

Caterpillar Global Mining Field Service is a provider of heavy equipment and earthmoving operations that support phosphate mining. For the past 45 years, our business has developed substantially around contracts it has undertaken with phosphate mining entities in the Central Florida Phosphate District.

As a contractor in Polk and Hardee Counties, we recognize the important role phosphate mining plays as a job creator and economic engine for Central Florida. In fact, our employees and operations depend on the continued responsible mining of phosphate in this region. Caterpillar Global Mining Field Service currently employs over 75 people in jobs that rely on phosphate mining activities. Without the approval of the pending permit applications, 75 of our employees will be facing severe loss of income and the imminent threat of losing jobs once current authorized mining is exhausted. Such a hardship is complicated by the deficit of replacement jobs readily available for our skilled employees or their families. Similarly, our annual revenues would suffer if future mining opportunities were diminished. At a critical and challenging moment for our state's economy, this is an impact that Caterpillar Global Mining Field Service employees, and our region cannot afford.

On behalf of our employees, I urge your support of the four pending permit applications and look forward to the finalization of the AEIS which we hope will continue to reflect the far-reaching economic connection between the proposed mines and the industries which operate to support them. Thanks for your consideration.

Sincerely,

Ron Rader

Ron Rader/ Service & Operations Manger- Eastern US
Caterpillar Global Mining Field Service

# FLORIDA GULF COAST BUILDING AND CONSTRUCTION TRADES COUNCIL

IN AFFILIATION WITH

BUILDING TRADES DEPARTMENT – AFL-CIO

Submission number 560

5621 Harney Road, Tampa, FL 33610

Phone: (813) 621-6451 • Fax: (813) 623-1623



July 26, 2012

RECEIVED
JUL 27 2012
Tampa Regulatory Office

Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Dear Mr. Fellows:

As stakeholders in the phosphate AEIS process, members of the affiliated unions of the Florida Gulf Coast Building & Construction Trades Council would like our voices to be heard on issues that could have significant effects on both job preservation and job creation in Florida. Our members have been engaged with the AEIS process since inception because we know our state is facing unprecedented economic challenges, and no-mining or limited-mining options would only further stifle job creation and growth.

The Florida Gulf Coast Building Trades represents over 20,000 domicile men & women and supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS.

As providers of highly skilled tradesmen in fields that include electricians, iron workers, pipefitters, painters, boilermakers, and many other skilled crafts performing services for the phosphate industry – we strongly support phosphate mining. For more than six decades, the skilled trades have developed substantially around contracts it has undertaken with phosphate mining entities in the Central Florida Phosphate District.

Our contractors in the west central region of Florida also recognize the important role phosphate mining plays as a job creator and economic engine for Central Florida. In fact, these employers, employees and internal operations depend on the continued responsible mining of phosphate in this region. Without the approval of the pending permit applications, our industry will be facing severe loss of income and the imminent threat of losing jobs once current authorized mining is exhausted. Such a hardship is complicated by the deficit of replacement jobs readily available for the skilled employees or their families. Similarly, our annual revenues would suffer if future mining opportunities were diminished. At a critical and challenging moment for our state's economy, this is an impact that our employers, employees, and our region cannot afford.

On behalf of our employers and their employees, I urge your support of the four pending permit applications and look forward to the finalization of the AEIS which we hope will continue to reflect the far-reaching economic connection between the proposed mines and the industries which operate to support them. Thanks for your consideration.

Sincerely,

William L. Dever
President
Florida Gulf Coast Building & Construction Trades Council

Submission number 561

JOYGLOBAL

P&H JOY

RECEIVED
JUL 3 1 2012
Tampa Regulatory Office

July 26, 2012

Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Dear Mr. Fellows:

Joy Global supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS.

Joy Global is a provider of heavy equipment and earthmoving operations that support phosphate mining. For the past 45 years, our business has developed substantially around contracts it has undertaken with phosphate mining entities in the Central Florida Phosphate District.

As a contractor in Polk and Hardee Counties, we recognize the important role phosphate mining plays as a job creator and economic engine for Central Florida. In fact, our employees and operations depend on the continued responsible mining of phosphate in this region. Joy Global currently employs 26 people locally in jobs that rely on phosphate mining activities. The Joy Global – US South Operation is supported by the Joy Global Dragline Services Division in Cleveland, OH which employees an additional 75 people as well as countless personnel at the Joy Global Corporate offices in Milwaukee, WI. Without the approval of the pending permit applications, these employees will be facing severe loss of income and the imminent threat of losing jobs once current authorized mining is exhausted. Such a hardship is complicated by the deficit of replacement jobs readily available for our skilled employees or their families. Similarly, our annual revenues would suffer if future mining opportunities were diminished. At a critical and challenging moment for our state's economy, this is an impact that Joy Global, its employees, and our region cannot afford.

On behalf of our employees, I urge your support of the four pending permit applications and look forward to the finalization of the AEIS which we hope will continue to reflect the far-reaching economic connection between the proposed mines and the industries which operate to support them. Thanks for your consideration.

Sincerely,

Shawn Hasley
Account Manager – US South Region
5980 Highway 17 South
Bartow, FL 33830
Office: 863-804-0131
Mobile: 863-286-4328
Fax: 863-804-0132
Email: shawn.hasley@joyglobal.com

Submission number 562

RECEIVED
JUL 3 1 2012
Tampa Regulatory Office

McDONALD
"We Move The Earth"
CONSTRUCTION CORPORATION

July 30, 2012

Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Dear Mr. Fellows,

McDonald Construction Corporation supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS.

McDonald Construction is a provider of heavy equipment and earthmoving operations that support phosphate mining. For the past 51 years, our business has developed substantially around contracts it has undertaken with phosphate mining entities in the Central Florida Phosphate District.

As a contractor in Polk and Hardee Counties, we recognize the important role phosphate mining plays as a job creator and economic engine for Central Florida. In fact, our employees and operations depend on the continued responsible mining of phosphate in this region. McDonald Construction currently employs 340 people in jobs that rely on phosphate mining activates. Without the approval of the pending permit applications, all of our employees will be facing severe loss of income and the imminent threat of losing jobs once current authorized mining is exhausted. Such a hardship is complicated by the deficit of replacement jobs readily available for our skilled employees or their families. Similarly, our annual revenues would suffer if future mining opportunities were diminished. At a critical and challenging moment for our state's economy, this is an impact that McDonald Construction, its employees and our region cannot afford.

On behalf of our employees, I urge your support of the four pending permit applications and look forward to the finalization of the AEIS which we hope will continue to reflect the far reaching economic connection between the proposed mines and the industries which operate to support them.

Thank you for your consideration,

Randy Johnson
Vice President Adm
McDonald Construction Corp.

Submission number 563

Tampa Armature Works, Inc.

440 South 78th Street
Tampa, Florida 33619
Tel: 813-621-5661
Fax: 813-622-7562



August 1, 2012

Mr. John Fellows, AEIS Project Manager
U.S. Army Corps of Engineers
10117 Princess Palm Avenue, Suite 120
Tampa, FL 33610-8302

Dear Mr. Fellows:

Tampa Armature Works, Inc. (TAW®) supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS.

As a business owner with service and manufacturing facilities in Hillsborough, Orange, Duval and Monroe counties, we recognize the important role that phosphate mining plays as a job creator and economic engine for Central Florida. In fact, our employees and operations depend on the continued, responsible mining of phosphate in this region. TAW® currently employs 260 people in jobs that rely on phosphate mining activities. Without the approval of the pending permit applications, 145 of our employees will be facing severe loss of income and the imminent threat of losing jobs, once current authorized mining is exhausted. Such a hardship is complicated by the deficit of replacement jobs readily available for our skilled employees or their families. Similarly, our annual revenues would suffer, if future mining opportunities were diminished. At a critical and challenging moment for our state's economy, this is an impact that TAW®, its employees and our region cannot afford.

On behalf of our employees, I urge you to support the four pending permit applications and look forward to the finalization of the AEIS, which we hope will continue to reflect the far-reaching economic connection between the proposed mines and the industries that operate to support them.

Thank you for your consideration.

Sincerely,

James A. Turner

James A. Turner, III
President and CEO

JAT,III:cmp

Submission number 565
(Attachments Available)

| | |
|---|---|
| **Submission Number:** | 000000565 |
| **Received:** | 07/26/2012 12:00:00 AM |
| **Organization:** | George C Brooks Consultancy, George Brooks |
| **Commenter Type:** | Company |
| **Classification:** | Undetermined |
| **Category:** | Attached file |
| **Submitted As:** | Mail |
| **Form Letter Category:** | |
| **Form Letter Master:** | |
| **Remarks:** | 2 letters attached |

| | |
|---|---|
| **Commenter Type:** | Company |
| **Name Prefix:** | |
| **First Name:** | George |
| **Last Name:** | Brooks |
| **Name Suffix:** | Sr |
| **Title:** | Phosphate Consultant |
| **Organization:** | George C Brooks Consultancy |
| **Division:** | |
| **Address Line 1:** | 4000 State Road 60 East |
| **Address Line 2:** | |
| **City:** | Mulberry |
| **State/Province:** | Florida |
| **Postal Code:** | 33860 |
| **Country:** | UNITED STATES |
| **Phone:** | 863-646-8004 |
| **Fax:** | |
| **Email:** | isuggett@penpro.net |
| **Number of Additional Commenters:** | |

lease see next page.

**The Brooks Report 7-27-2012**

Pursuant to your request, I am pleased to submit, herewith, an Addendum to my 1987 report concerning the above-referenced subject for your review.Please advise me should additional information or clarification be required.



INTRODUCTION

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Conversely, through concerted action by State government and industry, and with the support of agriculture, the general public and environmental groups, solutions to these conditions can be evolved to benefit the vast majority of Floridians.

These two conditions can be described as follows:

1. Continued inordinate extraction of fresh water from the Floridan Aquifer by municipalities, manufacturing, agriculture, mining and power generation to meet the tremendous demands of Florida growth.

For example all segments of society combined in the Southwest Florida Water Management District to draw 86 percent of the fresh water requirement from groundwater, as opposed to merely 14 percent from surface water sources.

Considering there are 40 billion gallons of fresh water lost daily, emanating from 16 major Florida rivers and reporting to salt water in the Gulf of Mexico and Atlantic, it is apparent the problem is not lack of water but one of water control and management.

Florida is blessed with a vast water source which, with continued indiscriminate use, may prove inadequate for the needs in the next century unless steps are taken to make greater utilization of surface water particularly in agriculture, manufacturing, mining and power generation segments. These activities consume 70 percent of Florida fresh water usage.

2. Lands disturbed by the activity of a vital, but declining, Florida phosphate mining industry can and will be a problem in counties within the State where this business is conducted. The recent practice of one company donating mined-out unreclaimed land to the State of Florida, rather than assuming the financially debilitating burden of land reclamation points out the severity of the mined land reclamation problem.

Such mined phosphate lands will approach or exceed 300,000 acres, statewide by the year 2000. This continued loss

of natural resource cannot be tolerated.
However, through proper planning, participation and cooperation of the government, phosphate industry, responsible citizens and environmental groups, benefits will be derived for the Florida public through utilizing manmade fresh water reservoirs created by phosphate mining activity.

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OVERVIEW
1. Florida Phosphate Industry
Florida phosphate mining had a beginning in the 1880s upon discovery of river pebble phosphate in the Peace River near Arcadia in DeSoto County. Mining was conducted by means of steam driven, wooden dredges operating within Peace River on a relatively low scale with phosphate pebble mostly exported via vessel loading at Boca Grande.
Prior to 1900, prospectors moved northward along the Peace River basin discovering rich phosphate deposits within a 250,000 acre area comprising West Polk and East Hillsborough counties. Actual mining near Mulberry commenced about 1900 in turn creating the world's largest phosphate center to this day. However, phosphate production reached a peak of 42 million metric tons in 1980 and has fallen to less than 29 million metric tons in 1986.
It is expected Florida will lose its position as largest producer worldwide by 1995 or shortly thereafter. Presently, there exist 23 phosphate mine plants in all of Florida with two located in Hamilton County, 19 in Polk and Hillsborough counties and one each in Hardee and Manatee counties. Approximately 60 percent or more of existing phosphate mines located in Polk and Hillsborough will be closed by 1995 due to ore body depletion or economic considerations.

The fact is that many company net revenues from remaining phosphate rock production will be less than reclamation costs required for acreage owned under the Mandatory Reclamation Act of 1975.
Consequently, the Florida phosphate industry will require relief, which could come about through cooperation toward solving fresh water storage problems, within a given area along with other beneficial land use.
Based on a report by the Florida Department of Natural Resources (DNR), the phosphate industry has reclaimed less than 15 percent of lands mined since passage of mandatory reclamation laws in 1975. Should this practice continue until the year 2000, there will be 300,000 or more acres of disturbed lands in Polk, Hillsborough, Hardee, Hamilton and Manatee counties. This figure does not include reserves yet to be opened in Polk, Hardee, Manatee, DeSoto, Columbia, Union and Bradford counties. Within these counties exists the last remaining major, economically mineable phosphate mine sites in Florida. These areas represent six mine sites and the best potential for the vital storage of fresh surface water with proper planning and design (see Exhibit I).
A major detrimental factor plaguing the Florida phosphate industry over the past ten years is the exorbitant capital investment cost for plant construction imposed upon the industry. This cost has escalated over 100 fold, whereas, other

costs, vis-à-vis, power labor and reagents have increased two to four fold. Equipment costs used in such plants have increased commensurately.
Fortunately, only a few companies accepted these exorbitant capital costs which resulted in bankruptcy in at least one case and some others have mines operating with little hope of profitability.
Consequently, unless the industry turns to those in Florida with an inclination and capability to construct the plants on a realistic and cost effective basis, such mines and projects discussed herein will not occur.
2. Florida Water Resources
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According to the Water Resource Atlas of Florida, 1984, the State receives an average of 54 inches of rainfall annually, which equates to 150 billion gallons of fresh water daily. The same source indicates an additional 25 billion gallons per day of fresh water moving into Florida from the adjoining states of Alabama and Georgia. This would indicate a total input of 175 billion gallons of water daily to Florida's water budget.
The same source indicates 107 billion gallons per day are taken by evapotranspiration or percolation and 68 billion

gallons per day are lost by stream outflow to the sea.

Thus, the embodiment of this report is in emphasizing the need for control and storage of a portion of the daily outflow of fresh water rated at 68 billion gallons per day permitting increased usage from fresh surface water sources, in turn reducing demand on the Floridan Aquifer.

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Population growth in Florida has been phenomenal, increasing from less than 3 million in 1950 and expected to approach 20 million in the year 2000. This nearly seven fold growth has and will create severe demand on fresh water supply for all segments of society, including public, industrial, agriculture and generation.

For example in 1950, with the Florida population slightly below 3 million, daily withdrawal, largely from groundwater was estimated at 2 billion gallons per day. This withdrawal rate grew to 7.3 billion gallons per day by 1980 with the population just under 10 million.

Based on an estimated water consumption of 1,800 gallons per day, per capita for all uses, Florida could withdraw nearly 30 billion gallons daily by year 2000. Using water distribution graphs of the Southwest Florida Water Management District as typical (see Figures 1 and 2), 86 percent of demand evolves from groundwater sources while a mere 14 percent is derived from surface water sources. Since agriculture, industry and power generation account for nearly 70 percent, it should be obvious that surface water should be used to a greater extent in order to protect Florida's major asset, the Floridan Aquifer.

(Please see PDF for Figures 1 & 2)

III. SUMMARY AND RECOMMENDATION

SUMMARY

The dual loss of continued outflow from the State of Florida of 68 billion gallons per day of fresh surface water and the failure to positively utilize remaining phosphate mine sites reclaimed, in part to water storage reservoirs, will undoubtedly create conditions for crisis management on or before the year 2000.

Remaining major phosphate mine sites have been identified as Sites A, B, C, D and E and shown in Exhibit I of this report.

It should be noted that all sites are situated in relative proximity to major population centers, as well as, major river systems with high daily outflows of fresh water. The main objective of creating these proposed reservoirs is to reduce pumping directly from the Floridan Aquifer and, concurrently, recharge that system provided it is done in an environmentally acceptable manner with water of suitable quality.

These sites are all located with the boundaries of Southwest and Suwannee Water Management Districts and positive action here could benefit other districts, particularly, St. Johns and South Florida Water Management Districts.

Sites under consideration and water storage potential are reviewed and defined (see Exhibit I) as follows:

Site A

This site is located in Columbia County with a mining area of approximately 28,000 acres affording an estimated 5,000 acres of fresh water storage totaling 20 billion gallons.

Site B

Location of this site is near the apex of the Santa Fe and New Rivers involving one or more mine sites totaling approximately 18,000 acres creating an estimated 3,500 acres of fresh water storage of 13.7 billion gallons.

Site C

This mine site is situated in two counties, namely Polk and Hardee, and containing approximately 13,000 mineable acres with fresh water storage area of 3,500 acres with a capacity of 14.8 billion gallons.

Site D

This site located in central Hardee County comprises approximately 28,000 acres of contiguous lands resulting in fresh water storage area of 5,000 acres with a capacity of 26 billion gallons.

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These sites, located in Polk County and having State of Florida ownership, namely Lake Hancock and Tenoroc State Park, are prime examples of income producing projects which could be applied toward State purchase of pristine lands endangered by development. Additionally, both of these sites would be upgraded from an environmental and utilization standpoint over a period of ten years or less if moved forward an a concurrent basis. It should be emphasized that this environmental restoration activity could proceed without interference to present recreational and commercial fishing uses.

RECOMMENDATION
Since the success of this conceptual environmentally oriented program would rest largely on progressive support of the Governor, State Cabinet, State Legislators, DNR, DER and Water Management Districts involved, proper reviews should be conducted for this assessment.
Based on an assumption of positive reaction, landowners, mainly phosphate companies, private individuals including owners of mined-out lands, involved in certain project sites vis-à-vis Lake Hancock would be contacted to determine their level of support. Since all of the projects would depend on cooperation of these groups, any advancement of a specific site would rise or fall at this juncture. The State should be prepared to outline incentives for participation by the phosphate companies on given sites according to ownership.
Detailed studies should commence on a site specific basis upon securing support from the aforementioned entities. Such studies should include hard dollar estimates of project costs.
None of these projects will take place under the exorbitant capital investment costs accepted by some within the phosphate industry over recent years. Needless to say, should the projects outlined herein fail to evolve, for whatever reason, industry, the workforce and the people of the State of Florida will feel the effect of mismanagement of our natural resources.

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(Please see PDF for Exhibit 1)
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Presently, the agriculture industry, which consumes 46% of withdrawal, has been forced to drill 1,500 foot wells for

irrigation, increasing salt water intrusion from Florida coastlines inward.
An actual example of such a catastrophe has already occurred due to heavy pumping in Australia's Murray River vicinity where the headwaters have been contaminated by salt water.
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BIBLIOGRAPHY
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**The Brooks Report 9-8-7**
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Methodology for Creating a Lasting Community Reservoir

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Industry Contacts
Writer files and knowledge compiled over 58 years in the Florida phosphate industry.

Submission Postcards
(numbers 566 through 626)

566

# I Support Florida Phosphate

My name is Eric Cade,
and I reside at 2142 Rocky Pointe Dr
Lakeland, Fl. 33813.

I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District,* and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

☐ I attended one of the public meetings hosted by the Army Corps in June 2012.

Submission Postcards (number 627)

627

## Great Blue Heron and Nest

*Postcard images courtesy of Florida naturalist and water quality expert John Kiefer, PE, PhD.*

*Photographed at CF Industries' Hardee County (Florida) North Pasture reclamation site. Post-mining, Spring 2011.*

CFIndustries

Phosphate Operations

Helping Farmers Feed a Hungry World

6209 N. County Road 663 ▪ Bowling Green, FL 33834

▪ 863-375-4321 ▪ www.cfindustries.com

Dear ACOE,

I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that **no future limitations** on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides.

I urge the ACOE to approve the projects as proposed by the applicants.

Name: Jorge A. Yanez

Address: 1090 W. Seminole

Bartow FL 33830

I AM A CF INDUSTRIES EMPLOYEE, CONTRACTOR or FAMILY MEMBER

Submission Postcards (number 628)

628

# I Support Florida Phosphate

My name is Chris Schuler,
and I reside at 1965 Camelot Ct SW
Winter Haven, FL 33880.

I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District,* and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

☐ I attended one of the public meetings hosted by the Army Corps in June 2012.

RECEIVED
AUG 0 3 2012
Tampa Regulatory Office

Submission Postcards
(number 629 through 2584)

629

# I Support Florida Phosphate

My name is Terrin Ivey,
and I reside at 19 N Palm Av
Frostproof Fl 33843.

I support the Florida phosphate industry, the U.S. Army Corps of Engineers' *Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District,* and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits.

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# Applicant Comment Letter
# CF Industries

Submission number 554
(Attachments Available)

CF Industries, Inc.
Phosphate Operations
PO Drawer L
Plant City, Florida 33564
813-782-1591
www.cfindustries.com

July 31, 2012

**OVERNIGHT DELIVERY**
**RETURN RECEIPT REQUESTED**

Draft AEIS Comments
U. S. Army Corps of Engineers
Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

Attn: Mr. John Fellows, USACE Regulatory Project Manager

**RE: Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, Comments from CF Industries, Inc.**

Dear Mr. Fellows:

CF Industries, Inc. (CF) appreciates the opportunity to review and comment on the May 2012 *Draft Areawide Environmental Impact Statement (DAEIS) on Phosphate Mining in the Central Florida Phosphate District*. The release of this DAEIS marks an important step in the process of ensuring all National Environmental Policy Act (NEPA) issues are adequately considered, both individually and cumulative, in conjunction with Clean Water Act Section 404 permitting decisions for CF's South Pasture Extension (SPE) mine and other similar pending applications. CF appreciates the level of effort that has been applied in the AEIS process to date and the level of detail contained in the DAEIS document. Moreover, CF is hopeful that the AEIS, once finalized, will better inform the U.S. Army Corps of Engineers' (Corps) permit determinations for both pending and future applications for Department of Army (DA) permits for mining within the Central Florida Phosphate District.

CF acknowledges the cooperative and inclusive approach used to develop this important document. It is clear the Corps engage in an exhaustive scoping process that included detailed review by the key regulatory agencies, including cooperative review by the Corps, the U.S. Environmental Protection Agency (EPA), and the Florida Department of Environmental Protection (FDEP), with additional review by the U.S. Fish and Wildlife Service (FWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the National Marine Fisheries Service. Numerous local stakeholders, including all local governments in the region, regional

agencies, community and environmental organizations, and individual members of the public have helped scope the Corps' study. In fact, CF commends your team for its efforts in conducting a balanced, comprehensive and expeditious review of phosphate mining issues in the Central Florida region amid such a broad spectrum of input for so many stakeholders. The DAEIS provides the cooperating agencies with the opportunity to conduct the meaningful analysis of each proposed project with project-specific data that is required by the National Environmental Policy Act (NEPA) and the Clean Water Act (CWA).

CF's continued operations at our one and only phosphate mine in the United States and the employment of many in Central Florida depend upon timely completion of the Corps' AEIS process. With this in mind, CF will continue to work diligently with the Corps in the context of our pending DA Application to provide more detailed review and analysis of the alternatives that are both reasonable and practicable for CF to implement in order to extend the life of our South Pasture Mine (South Pasture). CF believes such site-specific scientific evaluation is critical to the comparative analysis to be included in the Record of Decision (ROD) for our project, and we will continue to work with the Corps to be responsive in its completion of the Final AEIS (FAEIS) and its review of our application.

While CF is generally supportive of the analyses in the DAEIS, we do have some factual corrections as well as other comments and suggested revisions for consideration that we believe will strengthen the final document. Those comments are set forth below by topic, first in summary fashion and then in greater detail in the body of the letter. For ease of reference, our comments are also presented in Attachment A in tabular fashion identifying the chapter, section, page, and line number where they apply. Cross references to this letter will be included in the Comments Table (Attachment A). Technical corrections to facts such as acreages, land use/cover types, or other minor inconsistencies are included in a Technical Comments Table (Attachment B). Also included in this comment package are documents that CF believes should be incorporated into the final document, either in the bibliography or as an appendix, as appropriate, with textual references where needed.

CF's comments are being provided based on review of the DAEIS by various experts, both within CF's organization and external to the company, whose respective fields are pertinent to the analyses and information contained within the document. The résumés of the persons assisting CF with this comment package are included for reference in Attachment C.

**Overview of CF Industries**

CF Industries, through its parent company CF Holdings, Inc., is a global leader in fertilizer manufacturing and distribution, the second largest nitrogen fertilizer producer in the world and the third largest phosphate fertilizer producer among public companies.

CF operates seven nitrogen fertilizer manufacturing complexes in the central U.S. region and Canada; phosphate mining and production operations in central Florida; and a network of fertilizer distribution terminals and warehouses located primarily in major grain-producing states in the United States Midwest. CF operates the nation's most recently constructed phosphate rock mine and ore beneficiation plant, which is located in Hardee County, Florida (Hardee Phosphate Complex). CF's South Pasture Mine at the Hardee Phosphate Complex (South Pasture Mine complex or Hardee Phosphate Complex) extracts phosphate ore matrix and processes it through the beneficiation plant for use in phosphate fertilizer products produced at CF's phosphate fertilizer manufacturing complex in Plant City, Florida (Plant City Complex).

The Hardee Phosphate Complex and Plant City Phosphate Complex, along with CF's bulk ammonia and finished fertilizer storage distribution facilities in the Port of Tampa, comprise CF's operations to mine and beneficiate phosphate ore matrix, process it into finished phosphate fertilizer products, and ship those products to domestic and international customers. Products include diammonium phosphate (DAP) and monoammonium phosphate (MAP), the two most common phosphate crop nutrition products in U.S. and world markets. Phosphate fertilizers dramatically improve crop yields by helping plants generate necessary sugars, germinate seeds, and build strong root structures. Phosphate is a naturally-occurring mineral resource that cannot be synthesized and must be extracted through mining.

## I. OVERVIEW OF SPE PROJECT

The proposed project will extend the life of the Hardee Phosphate Complex by mining rock reserves adjacent to the South Pasture Mine located in the South Pasture Extension (SPE) parcel. The project will utilize its existing infrastructure, beneficiation plant, and equipment at the complex, which under the mine plan approved for the SPE by the FDEP, would extend CF's mining operations at South Pasture by approximately 10 years in a cost-effective, economically-viable, and integrated fashion. It is important to note that CF's mine, backfill, reclamation, and mitigation plans for the SPE have been approved by the FDEP after multiple years of review and vetting, including pre-application data analyses and monitoring, nearly three years of permit application processing, and a formal evidentiary hearing. CF firmly believes affirmation with this level of review and scrutiny demonstrates the company's commitment to fully address reasonable and practicable measures to eliminate (avoid) and reduce (minimize) impacts to water resources. The plans contained in CF's ACOE Application and reflected in its FDEP permits (hereinafter CF's Preferred Alternative) already incorporate appropriate and practicable avoidance and minimization of disturbance to waters of the United States and are based on detailed, field-verified data, modeling and analyses.

Mining of the SPE will allow CF to continue to supply phosphate ore body matrix to its existing Hardee Phosphate Complex beneficiation plant for separation and preparation of raw material phosphate rock to supply our existing Plant City Complex utilizing presently-owned property,

infrastructure, facilities, and equipment. The SPE consists of 7,513 acres of total project area and, as currently proposed by CF in our Preferred Alternative, 6,418 total mined and disturbed acres. Of those 6,418 acres, not all can actually be mined. Certain acres will be disturbed but not mined, *e.g.*, for infrastructure, stream crossings, and construction of recharge ditch and berm systems and other best management practices (BMPs). Phosphate ore cannot be feasibly mined without disturbing the ground surface, as there are no other methods currently commercially or economically available to obtain underlying ore in unconsolidated geologic deposits. This includes disturbance of wetlands and waters considered jurisdictional under the Clean Water Act and requires a Department of Army dredge and fill permit (DA Permit). CF's SPE permit application has been pending before the Corps for several years. The FDEP has now issued the state authorizations for the SPE, including the state Environmental Resource Permit (ERP) after a state administrative law judge recommended issuance following a contested evidentiary hearing. The ERP also represents the State of Florida certifications required under Section 401 of the Clean Water Act that state water quality standards will be maintained by the project and be consistent with the Florida Coastal Zone Management Plan. The application package pending before the Corps substantially reflects the plans submitted to, reviewed, and approved by FDEP for the SPE. This important validation step has been realized during the public comment period since publication of the DAEIS. *See* Attachment D (disc).

## II. GENERAL COMMENTS

### A. Overall Analysis of Phosphate Mining Impacts

CF believes that the data and analysis submitted to and developed by the Corps and CH2M-Hill, Inc. (AEIS Contractor) and presented in the DAEIS show that the pending projects, as proposed by the applicants, do not appear reasonably likely to cause unmitigated adverse impacts to the environment or to the public, either directly, indirectly, secondarily, or cumulatively, in light of past, present, and reasonably foreseeable future activities in the region. Reclamation and ecosystem restoration, enhancement, and creation efforts have been demonstrated to be effective at improving wildlife habitat and connectivity and to contribute to watershed-scale restoration efforts that have proven to maintain or improve the physical, chemical, and biological functions of connected waters of the U.S. Creation and preservation of riparian corridors and integrated upland and wetland habitat nodes consistent with the Integrated Habitat Network improves and expands wildlife habitat and ecosystem functions. The DAEIS and supporting records demonstrate that there are no unmitigated individual or cumulative adverse effects on water resources, ecological resources, recreation, environmental justice, cultural resources, or public health resulting from mining activities, and reclamation provides a variety of sustainable uses of land post-mining. However, as noted above, the discussion of the analyses in the DAEIS should be strengthened and better summarized in each chapter, but most notably in the Executive Summary and Chapter 4. CF suggests that, as it relates to the SPE, the DAEIS should recognize that the scientific data and analyses necessary to make those comparisons regarding alternatives

reasonable for CF's project purpose have already been submitted in the administrative record for the SPE Application and should be included in the Administrative Record of the AEIS (*see* Attachment D); the required alternatives assessment therefore can be conducted with the CF data already in the Administrative Record. Again, it should be remembered that the FDEP Bureau of Mining & Minerals Regulation, a cooperating agency, has already conducted its own very thorough assessment of water resources impacts, and that assessment has been affirmed both by a state administrative law judge and the head of the FDEP. *See* Attachment D. The Corps should strive to eliminate duplication with FDEP review and focus on criteria that are different from or additional to State criteria.[1]

**B. Purpose of Document**

As you know, NEPA requires that each federal agency prepare an environmental impact statement (EIS) for all "proposals for . . . major Federal actions significantly affecting the quality of the human environment."[2] Applications for federal permits, such as a DA Permit, can rise to the level of "major Federal actions" requiring NEPA analysis.[3] In this case, CF's SPE project requires approval from the Corps for activities associated with the project that result in a discharge of dredged or fill material into waters of the United States in accordance with 33 U.S.C. §1344. The Corps has determined that the SPE project and corresponding DA Permit Application constitute a proposal for major federal action that may significantly affect the quality of the human environment.[4]

NEPA is intended as a tool to aid in that agency decision-making. As the DAEIS properly recognizes, it is not an end in and of itself, and it does not mandate a particular result. Furthermore, while an areawide EIS such as this one "may be particularly useful" for reviewing the impacts of similar proposed actions along "with other reasonably foreseeable or proposed agency actions" when they "share common timing or geography," NEPA actually addresses only ***"pending proposals"*** for agency action. "NEPA does not require an agency to consider the possible environmental impacts of less imminent actions when preparing the impact statement on the proposed action."[5]

Significantly, in reviewing what constitutes a reasonable range of alternatives, the Corps in the final documents must consider what is reasonable *for CF to implement as an extension project.*

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[1] *See* 40 CFR §1506.2 and 33 CFR Part 325, App. B.(elimination of duplication with State and local procedures).
[2] 42 U.S.C. § 4332(2)(C) (2006).
[3] *Scientists' Inst. For Pub. Info., Inc. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1088 (D.C. Cir. 1973).
[4] The Corps' regulations regarding how NEPA is to be applied to actions on DA Permits are found at 33 CFR Part 325, App. B. The Council on Environmental Quality (CEQ) regulations governing NEPA are found at 40 CFR 1500-1508. The CEQ has also issued various guidance documents on its regulations, notably the document *Forty Most Commonly Asked Questions Concerning CEQ's National Environmental Policy Act Regulations,* 46 F.R. 18026 (1981) (*Forty Questions*).
[5] *See,* for example, Kleppe v. Sierra Club, 427 U.S. 390, 409, fn. 20 (U.S. 1976); also, *Forty Questions,* Question 24b, 46 F.R. 18026 (1981).

"What constitutes a reasonable range of alternatives *depends on the nature of the proposal* and the facts in each case."[6] Further, the extent of federal jurisdiction over a project and the ability of the agency to implement a particular alternative effects the level of analysis required for that particular alternative.[7] "Reasonable alternatives must be those that are feasible and *such feasibility must focus on the accomplishment of the underlying purpose and need*....Those alternatives that are unavailable to the applicant...*should be evaluated only to the extent necessary to allow a complete and objective evaluation of the public interest and a fully informed decision* regarding the permit application."[8] For applications for DA Permits, the Corps should normally focus on the *applicant's* statement of project purpose from the *applicant's* perspective.[9]

It should also be remembered that the "No Action" alternative, for purposes of a DA Permit is "one which results in no construction requiring a Corps permit," which may be either by the applicant "electing to modify his proposal to eliminate work under the jurisdiction of the Corps" or "by denial of the permit."[10] Thus, alternatives that would essentially result in no disturbance of waters of the U.S. are functional equivalents of a "No Action" alternative and do not need to be analyzed again.

CF believes the DAEIS properly reflects the role NEPA imposes on the Corps' decision-making process on the SPE Application and affords the Corps and its cooperating agencies, the opportunity for meaningful analysis of the environmental consequences of the four proposals for agency action. CF further suggests that, for several of the on-site alternatives addressed in the document (*see, e.g.,* DAEIS Tables 4-55, 4-56, 4-57 and 4-58), further site-specific feasibility analysis for the SPE is unnecessary as they are clearly unreasonable or not practicable and/or would result in essentially the same mine footprint as the "No Action" alternative.

### C. Clarification of Executive Summary

Since it may be the only document reviewed by many members of the public, the Executive Summary of the FAEIS needs to be very clear relative to potential beneficial and adverse consequences of each pending project.[11] This is particularly true relative to potential cumulative impacts on downstream water resources and regional economics, given the significant concerns expressed by the public on both of these topics. CF has worked hard to keep local communities and interested stakeholders informed about all aspects of its project and believes that some of the language in the Executive Summary, by not including summaries and conclusions clearly reflected by the data and in the remainder of the DAEIS, has the potential to inadvertently

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[6] *See Forty Questions,* Question 1b (emphasis added).
[7] *Forty Questions,* Question 2.
[8] *See* 33 CFR Part 325, App. B, 9.b.(5)(emphasis added).
[9] *Id.* at 9.b.(4).
[10] *Id.* at 9.b.(5)(b).
[11] 33 CFR Part 325, App. B, 9(b)(2).

misinform the public about water resource impacts. For example, the fact that the Corps analysis has indeed addressed the Primary Issues of Concern is not clear. Further, the analysis of environmental consequences in the summary does not adequately summarize the information contained in subsequent chapters and in the appendices. CF recommends that the Executive Summary be revised to add summaries of the environmental consequences discussions relative to impacts in the FAEIS. Also, in many cases, the discussions are split between Chapters 3, 4, and 5. Those discussions should be synthesized and incorporated concisely in the Executive Summary and included completely in Chapter 4, for ease of public review and preparation of the ROD(s) on the proposed actions.

### D. Additional Information in the Administrative Record

CF understands that the Corps and its AEIS Contractor assessed a great deal of additional data and information that further explain and support the Corps' analyses, even though they are not explicitly recognized in the DAEIS. CF requests that the Corps include that information in the FAEIS in the form of text references, additional appendices, and/or expanded bibliographies, as appropriate. For example, a great deal of information was provided regarding reclamation and mitigation techniques and results that remains unreferenced in the document. CF recommends that a reclamation appendix, at a minimum, be added to the FAEIS. Please refer to Attachment E (Reclamation Package) included herein for information specific to CF reclamation history that CF requests be incorporated into a Reclamation Appendix. Also, the versions of CF's mine, backfill, reclamation, and mitigation plans are not referenced in the bibliography, nor are the FDEP approval documents. CF requests that the documents included in Attachment D be included in the bibliography and referenced as appropriate in the text of the FAEIS.

## III. OVERVIEW OF CF COMMENTS ON DAEIS

In addition to the foregoing, CF's specific comments on the DAEIS can be summarized as follows. More detail concerning each of these comments can be found in Part V of this letter and in Attachments A and B.

### A. Project Purpose

The overall project purpose for the SPE must consider CF's purpose and goal to extend the life of its South Pasture Mine without an interruption in production at existing average production rates. All of the alternatives examined in the AEIS should be measured against that specific project purpose to determine whether they are reasonable, feasible, or practicable for CF to implement in meeting that purpose. CF requests that Chapter 1 of the FAEIS be revised accordingly.

## B. Site-specific Comparative Analysis

CF understands and appreciates the regional data review undertaken in the DAEIS, which provided a necessary and helpful way to describe the affected environment and frame the environmental consequences. However, as noted above, project-specific alternatives assessment of environmental consequences must occur at the project level, in light of the specific project purpose of each proposal. CF supports an approach that conducts additional detailed project level analysis and assessment of reasonable NEPA alternatives for the SPE, as well the required 404(b)(1) and public interest assessments, with incorporation and reference to data and information from that site-specific process into the comparative alternatives assessment included in the FAEIS as needed.[12]

## C. Site-specific Datasets

Verified, site-specific datasets for the proposed projects should be used to supplant and correct regional datasets wherever possible, as the DAEIS recognizes and CF concurs that field-verified, detailed site-specific data are far more accurate and useful for assessing and weighing environmental consequences of alternatives than are regional datasets or generalized metrics.

## D. Alternatives Analysis

Project alternatives that are not proximate to or that would reasonably likely halt, interpose significant delays in, or reduce production at the Hardee Phosphate Complex would not achieve CF's project purpose and are not reasonable alternatives for CF. Only alternatives that are reasonable and feasible for a particular applicant to implement as its proposed project should be compared against the applicant's Preferred Alternative for that project. Further, in assessing and comparing on-site avoidance/minimization alternatives, the Corps in the FAEIS must recognize the extent to which an applicant's Preferred Alternative incorporates appropriate and practicable avoidance and minimization compared to the full extent of the property, particularly when a cooperating agency (FDEP) has already assessed those considerations. In assessing and comparing the environmental consequences of both on- and off-site alternatives, the Corps in the FAEIS should assess comparative ecological connectivity benefits of the practicable alternatives, but this analysis cannot stop simply with a comparison of wetlands mined or avoided. CF requests that the FAEIS recognize the industry's substantial experience and success in restoring site conditions to historic (as opposed to pre-mining) conditions in a manner that meets regional conservation goals, as well as CF's specific proposal to restore historic ecological and hydrological conditions on the SPE. Alternatives that do not afford a similar opportunity for regional restoration should be discounted accordingly.[13]

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[12] *See* 33 CFR Part 325, App. B.9.b.(5) (project must focus on accomplishment of the underlying purpose and need).
[13] *See* Forty Questions at 19.

Relative to the implementation of specified acreage buffers (or geographical exclusions) as part of the on-site alternatives analysis, CF does not agree that arbitrarily assigned buffer distances are reasonable or necessary to protect the wetlands or surface waters regulated under the Clean Water Act. Any consideration of buffers must have a reasonable and quantifiable scientific basis and be reasonable in terms of benefits achieved by their implementation. This is particularly true in light of certain key facts: (1) implementation of buffers would generally require the Corps to attempt to implement a prohibition on mining in uplands, notwithstanding the limitations on Corps jurisdiction under the Clean Water Act; (2) implementation of buffers would have a significant adverse impact on mineral recovery without a significant environmental benefit; and (3) application of the buffers would essentially result in the "No Action" alternatives, which is already addressed in the document. Any buffer application or determination must be made on a site-specific basis; the evidence demonstrates that construction of a purpose-designed recharge and berm system between all avoided areas and mine areas, along with other site-specific Best Management Practices (BMPs), are effective in preventing adverse impacts in the avoided areas. The buffers suggested by scoping comments have already been sufficiently evaluated in the DAEIS; they are clearly unreasonable and do not need to be further analyzed in the FAEIS.

## E. Water Resources Impacts Analysis

CF generally concurs with the Corps' overall conclusions as to the cumulative potential effects on water resources of the proposed future phosphate mining. However, as explained below, the Corps used certain overly conservative assumptions in its analyses that tend to exaggerate any potential effects, which could lead to a misunderstanding of the true potential impacts of phosphate mining. CF requests that the document better recognize the effects of decades of water conservation and reuse by the phosphate industry and the various BMPs recommended by EPA's *Environmental Impact Statement: Central Florida Phosphate Industry* (November 1978) to protect downstream water quality and reduce reliance on groundwater for operations. These and other directed actions in the basin, have resulted in a continuing trend of improvement in water quality, aquifer levels, and streamflows over historic conditions.

## F. Economic Resources Impacts Analysis

CF concurs that cessation of mining at the end of the current mine life of the South Pasture and other existing mines would have a devastating economic effect. Not only would Hardee County and the region be deprived of jobs, wages, tax revenue and other economic benefits, CF would ultimately be forced to shutter both its mine and its Plant City Complex and port facilities, adversely affecting not only CF's employees, vendors, and contractors, but also CF's stockholders as a publicly traded company. The potential impact on American farmers and consumers must also be considered because, if sufficient phosphate fertilizer is not available

domestically at a reasonable price, crop yields could be affected and food prices could subsequently rise.

### G. Environmental Justice Impacts Analysis.

The economic benefits that would result from the continued mining in Hardee County will extend to low-income and minority communities. As discussed below, low-income and minority populations in Hardee County would in fact be harmed if mining ceases. CF requests that the FAEIS include this analysis to clearly and affirmatively establish that there are no environmental justice concerns relative to phosphate mining in Hardee County.

### H. Mitigation

CF agrees that the Florida phosphate industry conducts wetland mitigation with large-scale system connectivity and the overall watershed in mind. (*See* DAEIS, Section 5.3.1., p. 5-2, lines 29-33). The Mitigation Chapter, Chapter 5, should recognize that, while some off-site mitigation opportunities may exist that are practicable for a given project, phosphate companies are actually uniquely qualified and experienced in providing on-site, permittee-responsible mitigation that achieves the goals of the Compensatory Mitigation Rule more effectively than mitigation banking or in-lieu fee mitigation. Phosphate reclamation (both upland and wetland) coupled with avoidance, enhancement and preservation has demonstrably achieved ecological benefits that are regional in scope. While mitigation banks are not an available option. *See* Attachment E. Further, the FAEIS should recognize the ability of the applicants today to restore wetlands and surface waters in conjunction with reclamation of adjacent uplands as native land covers and permanently protect avoided and restored or enhanced lands through the grant of conservation easements, which protection would not be provided by the No Action alternative. This is a key part of the assessment of the environmental consequences of the various alternatives; those alternatives cannot be properly assessed simply as acres of land avoided without a consideration of the positive consequences achieved in the proposed post-reclamation footprint if the land is mined as proposed. The FAEIS should recognize the role of reclamation in initial mine plan development not only as mitigation, but as an important tool in comparing alternatives.[14]

## IV. DETAILED COMMENTS ON DAEIS

### A. Use of Appropriate Datasets for Analysis (Entire Document)

It is understood that publicly available data had to be used in the AEIS analyses by the very nature of the scale of the study. CF supports the use of regional datasets for initial site screening purposes (Section 2.2.4) and for basic assessment of the regional affected environment (Chapter 3) (with some corrections, as noted in the Technical Corrections Table). However, CF believes

[14] *Forty Questions* at 19.

exclusive use of regional databases for assessment of on-site alternatives (Sections 2.2.3 and 4.10) is of limited value. Incorporation of site-specific data, particularly where readily available and field validated, will improve the Corps' NEPA analyses.

The regional information used as a basic alternatives screening tool in the DAEIS should be supplemented with such site-specific data for better performance of feasibility and practicability analyses for each project. The NEPA and avoidance and minimization analyses should advance beyond use of the initial screening tools [*e.g.,* the Critical Lands and Waters Identification Project (CLIP), the Integrated Wildlife Habitat Ranking System (IHWRS), and National Hydrography Dataset (NHD) databases] to more precise metrics.

First, both the IHWRS and CLIP are based entirely upon analysis of large-scale remote sensing data consistent with 1:24,000 to 1:100,000 map scale resolution. While such data are sufficient for initial statewide screening of candidate sites, they are not appropriate for use in high-accuracy mapping applications. As an example, on four of 24 sites evaluated in the DAEIS, the acreage of highest quality wildlife habitat projected was up to twice the acreage of native cover present on the site, which demonstrates that up to half of the sites' highest quality wildlife habitat was actually land that had been converted to agricultural uses. It is for this reason the authors of CLIP and IHWRS include explicit disclaimers concerning potential small-scale inaccuracies (*see* pp. 4-6 of the Clip 2.0 Technical Report and pp. 19-20 of the 2009 IWHRS report).

As the AEIS process moves from draft to final, the focus and metrics applied in the alternatives analyses of the four pending applications should comprise exclusively those specified in the 404(b)(1) Guidelines, NEPA, and the Corps public interest considerations. The regional GIS data sets used in the DAEIS relate to only a few of those regulatory criteria. In contrast, the baseline data provided by both applicants in all four applications include site-specific ground level data that have received substantial field verification by the Corps and/or FDEP. In addition, these data directly correlate to the criteria that must be evaluated by the Corps during the application review and are current. Reasonable and practicable alternatives to be compared must consider (1) their relative reasonableness and practicability (under the 404(b)(1) Guidelines) to achieve each project's purpose; (2) their relative ability to achieve regional/watershed-based conservation and wildlife habitat connectivity goals; and (3) their relative impacts on ecologic resources, water resources, economic resources, cultural resources, and environmental justice, both individually and cumulatively. For these reasons, CF does not believe that the use of regional datasets is an appropriate metric to use in establishing different mine footprints for the on-site alternatives analyses, and we urge the Corp to use the site-specific information presented in the applications as the basis for such determinations.

## B. Comments on Executive Summary

CF believes the accuracy and substance of the Executive Summary is very important, given that the Executive Summary may be the only portion of the AEIS that certain members of the public or other interested parties might read. To that end, while we commend the detailed nature of the Executive Summary in general, CF suggests a number of clarifications to better inform the general public concerning potential impacts associated with past, present, and future phosphate mining in Central Florida.

First, the Executive Summary of the FAEIS should make clear that the "Primary Issues of Concern" identified in ES.4 have been addressed, and that the data and analysis in the AEIS and in the Administrative Record supporting the AEIS, as well as the individual applications (also part of the Administrative Record for the AEIS) support the conclusions in the FAEIS. The implicit assumption that the "Primary Issues of Concern" identified in ES.4 are valid or remain unaddressed is not supported by the remainder of the document, and in particular, the appendices.

Second, the Executive Summary of the FAEIS (as well as the subsequent chapters and appendices) should include concise summaries regarding each issue of concern based on the data and comparative analyses drawn from the subsequent chapters regarding the direct, indirect and cumulative environmental consequences of each resource category. The discussion in the subsequent chapters concerning each resource is too segmented to be easily comprehended by the lay public (*e.g.,* wetlands impacts are discussed in Chapters 3, 4, and 5). This is particularly true relative to cumulative impacts. For example, the Executive Summary should be revised to make clear that, relative to impacts on downstream water users and downstream hydrology, streamflows and baseflows contributing flow to Horse Creek, Peace River, or Charlotte Harbor *are improving* over historic conditions and will continue to improve relative to phosphate mining, even if all of the proposed and reasonably anticipated future mine projects are approved.

## C. Comments on Chapter 1

Purpose and Need. CF believes Chapter 1 contains an inaccurate statement of the overall project purpose for the SPE; it fails to recognize the principal purpose of the project, *i.e.,* to extend the life of the South Pasture Mine, which in turn supplies CF's Plant City Complex with the continued necessary raw materials for fertilizer production. (DAEIS Section 1.2.2.3, p. 1-16). The project purpose and need must recognize that construction of a *new* separation/beneficiation facility would not achieve the overall project purpose of the SPE *extension* project, as CF's South Pasture separation/beneficiation facility is the newest in the country and the SPE size is not sufficient to justify construction of a new beneficiation plant.

CF currently operates the Hardee South Pasture Mine Complex at a nominal average production rate of 3.5 million tons per year. CF's Plant City Fertilizer Complex has an average annual

phosphoric acid production rate of 1 million tons per year, which is used to make 2 million tons per year of DAP/MAP. It takes approximately 3.5 tons of phosphate rock to produce 1 ton of phosphoric acid. The footprint of the phosphogypsum stacks for the Plant City Fertilizer Complex is fully permitted for the expected life of the Plant City Complex through 2040 and, as discussed in greater detail below, the impacts to the human environment associated with it (including its phosphogypsum stacks) were fully assessed at the time the Complex was permitted. The SPE, as currently proposed by CF, is expected to meet CF's need for the South Pasture Mine Complex (*i.e.,* Hardee Phosphate Complex) to supply rock to its Plant City Phosphate Complex until 2035. The current Plant City Phosphate Complex phosphogypsum stack plan provides for stacking capacity through the year 2032 through completion of permitted Construction Sequence II and vertical expansion atop the closed phosphogypsum stack. Should additional stacking capacity be required beyond 2032, a third lateral expansion of the existing stack, Construction Sequence III, has already been approved through the Development of Regional Impact (DRI) process that provides for an additional 11 years of stacking at current production rates. The important point is that all wetlands and uplands restoration and creation work has been completed for the stack expansion plan in accordance with Plant City Complex land development approvals and associated permits, including Construction Sequence III. It should be noted that the Plant City Phosphate Complex and phosphogypsum stack are not located in the Peace River watershed. *See* Attachment F.

CF recommends that the Corps recognize and adopt an Overall Project Purpose for the SPE, as follows, at lines 29-32 on p. 1-16 of the DAEIS:

*The overall project purpose for the SPE is to extend the operational life of the South Pasture Mine Complex by extracting phosphate ore from the mineral reserves located within a practicable distance from the existing South Pasture beneficiation plant and constructing the associated infrastructure required to extract and process the phosphate ore at the South Pasture separation/beneficiation facilities, recognizing that the ore extracted must be within a practicable distance to the existing South Pasture beneficiation plant.*

## D. Comments on Off-Site Alternatives Analysis (Chapter 2)

CF generally concurs with the screening analysis contained in Chapter 2 of the DAEIS and removal of certain sites from further detailed alternatives review as clearly not reasonable or achievable alternatives. *See* CF's Alternatives Analysis, at pp. 8-13 of the Environmental Narrative accompanying CF's DA Application for SPE. However, additional screening tools, such as reference to local Comprehensive Plans or other databases, reveal significant constraints on the ability to develop several of the alternative sites included in the DAEIS. Specifically relevant to the extension of CF's South Pasture Mine operations, two of the alternatives within a ten-mile radius of the beneficiation facility are not reasonable alternatives to CF's Preferred Alternative for the SPE for the reasons discussed below.

Integrated Habitat Network (IHN). Page 2-57 of the DAEIS does not accurately reflect the goals of the IHN where it is used as a screening tool to determine mineable extent of alternative parcels. The IHN should not be used as a tool to determine avoidance areas, but rather, as a tool for establishing the potential for connectivity of wildlife corridors through preservation, restoration, creation or enhancement of habitat. *See* CF comments on Chapter 5, below.

E.S.5 and SECTION 2.2.4.4: ANALYSIS OF SITES D & E. Subsequent to publication of the DAEIS, further analysis of alternative sites was completed to ensure reasonable and practicable alternatives were available to compare against the SPE application submitted by CF and to independently verify CF's assertion that no such alternatives exist. Consistent with DAEIS Section 3.1.5, the GIS database was queried to identify which of the preliminary offsite polygons shown on DAEIS Figure 2-17 are located within 10 miles of the existing South Pasture beneficiation plant. Sites A through C, F through R, T through DD, and FF through JJ lie entirely beyond the 10-mile radius. Small portions of sites F, S, and EE fall within the 10-mile radius; however, these sites are too small to meet the project purpose; the acreage within each is too small to justify walking a dragline and construction or relocation of mine infrastructure corridors there (see DAEIS pp. 2-23-29). Therefore, alternative sites F, S, and EE are not reasonable or practicable alternatives for the SPE project. In contrast, alternative sites D and E lie mostly within the 10-mile radius; therefore, further review of these sites was conducted by CF.

Attachment F illustrates that the portions of alternative sites D and E lying within 10 miles of the South Pasture beneficiation plant are mostly subdivided into parcels smaller than 430 acres. As documented in DAEIS Section 2.2.4.4, real estate negotiations that require more than 10 transactions to acquire are generally unsuccessful. Therefore, further review of the property ownership records was conducted to determine whether large blocks of land (at least 40 acres) were controlled by a limited number of owners, such that a portion or portions of sites D and E, if aggregated, could form a reasonable alternative to the SPE site.

The first factor to consider is local government land use restrictions. Shown (in cross hatching) on Attachment F is the land where mining is prohibited due to its designation in the Hardee County Comprehensive Plan as the Vandolah Rural Center mixed use future land use district. *See* Objective L.8, Hardee County Comprehensive Plan. Therefore, the land designated as Vandolah Rural Center is not a reasonable alternative to the SPE property.

As shown on Attachment F, several large parcels occur elsewhere within sites D and E, some of which abut CF's property and others that are separated from CF by numerous small parcels. Review of the property appraiser's data identified the largest 10 landowners adjacent to or near CF that own 4,365 acres and the largest 20 nearby landowners control 5,549 acres. These ownership interests range from 717- to 56-acre parcels. As the DAEIS recognizes,

connectability of alternate sites to the beneficiation plant is of critical importance (*see* DAEIS p. 2-29).

When acquiring property to expand a mine, the most important land to acquire is the abutting property. There are currently five landowners who control approximately 1,535 acres abutting CF property, referred to as the first "tier" and shown in green on Attachment F. Should CF be able to acquire all of this property, another four parties control approximately 615 acres abutting the first "tier" of landowners, which are shown in blue.

Attachment F illustrates the "tiering" required to acquire the largest parcels within sites D and E. Acquisition of the 5,549 acres controlled by the 20 largest owners would require extending out to the seventh "tier" of owners. Obviously, none of the "tier 2" properties could become mineable unless CF controlled the abutting "tier 1" property, *i.e.*, unless they are "connectable" (*see* DAEIS p. 2-29).

Beyond the second tier, one landowner, or a combination of two alternate landowners control access not only to their own property, but all of the "tier 3" properties. Thus, access to any of the "tier 3" properties, would not be possible unless CF was able to successfully conclude the acquisition of one specific "tier 1" and one or two other specific "tier 2" parcels.

Attachment F illustrates the large landholdings abutting or near CF's property are extremely irregular as compared to the large, contiguous SPE tract. Mining logistics would be adversely affected by: (1) Hardee County Land Development Code property-line setback requirements, thereby potentially reducing the mineable percent of each parcel (*see* DAEIS Table 2-15); (2) infrastructure corridors that would not be straight, effectively lessening the 10-mile radius maximum pumping distance threshold (*see* DAEIS Section 3.1.5); and (3) the presence of only three blocks of land large enough to site a settling area, necessitating land acquisition from two specific third-party owners (*see* DAEIS p. 3-5).

This acquisition scenario differs dramatically from the land acquisition constraints applicable to siting a theoretical new mine elsewhere on land not owned by CF or Mosaic, where two acquisitions from three or four existing landowners could form a single, contiguous 9,000-acre mine site. In the case of the CF SPE, acquisition of land beyond the "tier 2" acres would not be possible unless CF successfully completed transactions with one specific "tier 1" owner, one or two specific "tier 2" owners, and one specific "tier 3" owner.

In addition to these constraints, CF also would first have to conduct exploratory drilling to confirm these properties contain mineable reserves (*see* DAEIS p. 2-11). Thus, sites D and E introduce the risk that CF could not develop these lands in time to replace the South Pasture Mine, should these lands have insufficient or poor quality reserves. CF also notes that sites D and E would, at most, represent infill parcels to further extend, rather than to serve in lieu of, the SPE (*see* DAEIS Section 2.2.4.4).

In summary, sites D and E do not contain lands that could be reasonably and practicably acquired and developed by CF to supplant more than a small percentage of the reserves available beneath the SPE, because (1) the land needed to form an alternative to the SPE would require CF to purchase land from two specific landowners without the power of eminent domain; (2) not more than 20 percent of the acreage available in the SPE would be available from other willing sellers; (3) siting of one or more clay setting area(s) would require purchases of specific parcels; and (4) mining costs would be escalated by increased property-line setbacks and circuitous mining infrastructure corridors. Therefore, sites D and E are not reasonable alternatives to the development of SPE.

## E. Comments on On-Site Alternatives Analysis (Executive Summary, Chapters 2 & 4)

The reasonableness of alternatives set forth in ES.5 and in Chapters 2 and 4 must consider whether the alternative site is owned by a competitor, as well as whether the alternative is within 10 miles of a company's existing beneficiation facilities for proposed extension projects. Mosaic's Wingate East Extension, Ona Mine, Desoto Mine, Pine Levels/Keys and Pioneer tracts (Alternatives 2 through 4 and 6 through7, respectively) are not reasonable alternatives for CF as alternative locations for its SPE project because: (1) they are already owned by Mosaic and are reasonably expected to be developed as phosphate mines or mine extensions by Mosaic; and (2) with the exception of the Ona Mine, none are within 10 miles of the Hardee Phosphate Complex beneficiation facility. It is not reasonable to consider Mosaic-owned parcels as alternatives to CF's preferred mine location because it is not reasonable to assume that those parcels are available to CF or could reasonably be acquired. Consideration of such an alternative simply does not "make sense" in light of CF's project purpose, as required by the CEQ Guidelines and 33 CFR Part 325, App. B.

Buffer Distances. There appears to be no hydrologic, ecologic, or water quality basis for establishing buffers of arbitrarily set distances that would uniformly (or selectively) apply in all cases. To be properly considered, buffer concepts must be addressed on a project-specific basis in light of site-specific considerations. Specifically, there appears to be no valid scientific data supporting the establishment of setbacks between phosphate mine areas and avoidance areas of 1,500, 3,000, or 6,000 feet (or any other distance) beyond comments made by certain commenters during the scoping process. The buffers presented in the DAEIS are not necessary to protect against water quality impacts associated with mining, in light of the perimeter berms established as stormwater best management practices (BMPs) around mining areas. No evidence has been presented that the extensive buffers in the DAEIS are necessary to protect or improve stream flow or hydroperiods in adjacent streams or wetlands, in light of the demonstrated recharge systems designed and installed adjacent to such features. There is no documentation or other evidence that the buffers considered in the DAEIS will provide greater protection of habitat values or wildlife in the avoided systems. The evidence suggests (and CF's SPE Corps Application data confirms) that, in many instances, on-site wetland and stream systems and their

adjacent uplands have been adversely impacted by conversion to agricultural use (pastures, cattle, row crops, ditches).

The available data indicates that extensive buffers as presented in the DAEIS are not necessary to protect or improve stream flow or hydroperiods in adjacent streams or wetlands, in light of the recharge systems designed and installed adjacent to such systems. On the contrary, as the DAEIS recognizes, recharge systems are designed to provide hydrologic functions in lieu of those that conceivably would be provided by large buffers to maintain a functionally viable water table protective of wetlands and streams. For example, the Southwest Florida Water Management District's Water Use Permit for CF's South Pasture Mine requires the installation of recharge systems whenever the company is mining within 1,800 feet of a property boundary or wetland preserve, specifically to prevent adverse dewatering of wetland water levels and stream baseflow. The 1,800 foot distance was determined conservatively from site-specific soil and aquifer characteristics. In effect, the recharge systems provide a level of water level protection equivalent to that of an 1,800 foot buffer or better.

Furthermore, CF has conducted a detailed water budget for the existing South Pasture and proposed South Pasture Extension Mines as part of the company's Environmental Resource Permit application. Given CF's permitted WUP groundwater withdrawals and dedicated storage capacity, the company can provide offsite stream flow equivalent to that of a pre-mining condition on a long-term, annual, and seasonal basis. Also, the company can provide offsite flows in a manner that would not adversely affect the withdrawal capacity of the Peace River Manasota Regional Water Supply Authority.

Also, upon reclamation, the company's MIKE SHE integrated model results indicate that the land will provide enhanced flows for approximately 90% of the time, with such benefits occurring during all but the wettest of periods. This means that both during mining and after reclamation, CF's property will provide for adequate offsite flow during the dryer and most common intermediate rainfall periods, while reducing the severity of major floods. Therefore, the extensive buffers are not necessary to protect against water quantity impacts in avoided or downstream areas.

For example, on the SPE the majority of the uplands within 1,500 feet of the proposed No Mine area comprise agricultural land, barren/disturbed land, or transportation/utility uses (FLUCCS 200, 700, or 800, respectively). Specifically, buffering the proposed No Mine area by 1,500 feet results in the protection of 2046 acres of uplands (1,443 acres of which are agricultural or disturbed land cover types) and only 427 acres of wetlands. Therefore, 58% of the total buffered area and 69% of all uplands within the buffer are agricultural and/or disturbed. Consequently, many of the wetlands and patches of native upland land cover within this buffer are severely fragmented by the dominant agricultural land. Similar but more severe effects are realized when

the 3,000 and 6,000 foot buffers are applied. This demonstrates that preservation of these areas does not provide valuable ecological connections between "core" areas of high quality habitat.

The Affected Environment (Chapter 3) and Mitigation (Chapter 5) discussions indicate such buffers are unnecessary. As Attachment E demonstrates, the proposed hydrologic monitoring and site-specific geologic investigations, coupled with recharge ditch and berm systems designed based on site-specific surface and subsurface conditions and the condition of adjacent preserves, are fully protective of off-site and on-site avoided areas when designed and implemented as proposed in CF's Preferred Alternative. Mining activities adjacent to a specific preserve occur only briefly (*i.e.*, typically a few years), as opposed to permanent land use changes (*e.g.*, commercial or residential development) where the presence of buffers may be warranted due either to the permanence of development or the inability of the developer to implement BMPs such as those proposed by CF. Furthermore, CF's Preferred Alternative also includes landscape-scale reclamation that results in a net increase in streams, wetlands, and native habitat covers on site and elimination of historic agricultural land use impacts, which is a benefit that would likely not be achieved by implementing these unnecessarily large buffers, without the revenues generated by mining to fund the restoration. *See* Attachment D (SPE Application, Wildlife Habitat Management Plan). These large buffers also contain uplands that are mineable without federal Clean Water Act authorization; therefore, in many cases, such buffers go beyond the "No Action" Alternative in the DAEIS. Based on these factors, CF believes the buffers presented are unwarranted, inappropriate and unworkable as alternatives.

In addition, the buffers suggested, as well as several of the alternative mine-footprints, are neither reasonable nor feasible to implement on the SPE based upon the amount of potentially mineable land they clearly preempt.

It is very important to recognized that CF's Preferred Alternative already represents substantial aquatic resource avoidance based on the actual condition and function of the system to be protected, as well as technical and logistical feasibility issues such as dragline maneuverability, stream and wetland crossings, infrastructure requirements, and clay settling area requirements. The FDEP has already required mine footprint reduction at the state level on these bases, which necessitated a loss of reserves. *See* Attachment D (FDEP approvals; SPE Application at Environmental Narrative).

Specifically, CF requests that the percentage of the SPE mine site that would be preempted by the DAEIS alternatives be clarified as follows:

CF's Preferred Alternative already represents *permanent and protected* avoidance of over 1,000 acres of wetlands, streams, and native habitats on-site, and an associated loss of mineral reserves beneath those acres. CF's Preferred Alternative represents mining and reclamation of 6,418.2 acres of the total site but this is not the entirety of the mine site—or mine reserves—on the

property. Thus, references in Tables ES-5 through ES-11 and Tables 4-55 through 4-61 to the SPE mine site as comprising 6,418 acres is inaccurate Preferred Alternative. Rather than CF's Preferred Alternative representing 100% recovery of potential available reserves, as implied by the DAEIS, 6,418 acres actually represents only 83% of the land area of the SPE (*i.e.*, a loss of 27% of potential reserves), and actual acres to be mined is significantly less than that. That figure reflects areas that are necessarily disturbed but not mined as a result of project logistics such as dragline maneuverability, wetland crossings, and perimeter berm requirements.[15] Project logistics completely preclude mining small isolated areas, such that avoidance of the areas as suggested in the DAEIS on-site alternatives would necessitate far greater reserve losses than those directly underlying the avoidance area and would preempt even more land than is reflected in the table. Most of the mine alternatives presented, given the expansive buffers, essentially result in a "No Action" mine footprint in light of the actual areas to be avoided, the buffer, and the additional land area preempted by project logistics.

Even without taking such project logistics into account, a straight calculation of reserves[16] lost based on the avoided acres plus the buffers should reflect the actual percentage of the total project site, not simply the Preferred Alternative mine footprint, *i.e.*, it must recognize the 1,096 acres already avoided by CF's Preferred Alternative. The DAEIS comparisons of potential reserve recovery should be adjusted accordingly. However, it is important to note that each acre does not yield the same quality, quantity or thickness of reserves. Likewise, each on-site alternative creates site-specific issues with respect to logistics and feasibility, *i.e.*, whether draglines and infrastructure can be accommodated by a particular mine footprint. As a general rule, mining around uneven landforms such as wetlands and streams requires additional avoidance simply based on the size and maneuverability of the dragline. *See* Attachment D, SPE Application, Environmental Narrative. A brief look at the amount of potentially mineable reserves lost by the various alternatives on Tables 4-55 through 4-59 demonstrates the clear unreasonableness of those alternatives for CF's SPE:

**Table ES-5/4-55: Priority 1 and 2 Avoidance Areas:** CF's Preferred Alternative already incorporates avoidance of high quality and unique habitat to the extent feasible and practicable, although it does not specifically incorporate CLIP Priority 1 and 2 concepts. Further, CLIP 1 and 2 encompasses substantial acres of upland habitats. The Clean Water Act, Section 404, does not regulate uplands, only waters of the United States.

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15 While the DAEIS assumes an equal volume and quality of reserves extracted from each acre of each parcel, in fact, as the DAEIS recognizes, each acre does not yield the same quality, quantity or thickness of reserves. Likewise, each on-site alternative creates site-specific issues with respect to mineability and logistics, *i.e.*, whether draglines and infrastructure can be accommodated by a particular mine footprint. As a general rule, mining around uneven landforms such as wetlands and streams requires additional avoidance simply based on the size and maneuverability of the dragline. Further, required ditch and berm systems and wetland crossings disturb the land surface but do not result in mineral extraction.

16 For purposes of this comment letter, CF is utilizing the reserve calculations in the DAEIS, although as noted above, each acre does not yield the same thicknesses, volume, or quality of reserves.

1,500 Foot Buffer = Loss of 89% of potential available reserves

3,000 Foot Buffer = Loss of 96% of potential available reserves

6,000 Foot Buffer = Loss of 100% of potential available reserves

**Table ES-6/4-56: Perennial Streams:** *There are no perennial streams on the SPE project site.* Therefore it is unclear what is being used as the basis for this analysis, since it appears to be a separate analysis from the Perennial + Intermittent Streams avoidance alternative in Table ES-7/4-5. CF's Preferred Alternative already incorporates avoidance of natural intact (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.

| | |
|---|---|
| 1,500 Foot Buffer | Not applicable to SPE |
| 3,000 Foot Buffer | Not applicable to SPE |
| 6,000 Foot Buffer | Not applicable to SPE |

**Table ES-7/4-57: Regional Dataset Mapped Perennial and Intermittent Streams:** The streams as mapped for purposes of these tables do not comport with the site-specific, field-verified stream mapping undertaken by CF, which is in the process of being verified as part of the wetland jurisdictional determination for the site. These numbers do not accurately reflect the existence of length of streams on the SPE. CF's Preferred Alternative already incorporates avoidance of intact natural (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.

1,500 Foot Buffer = Loss of 65% of potential available reserves

3,000 Foot Buffer = Loss of 88% of potential available reserves

6,000 Foot Buffer = Loss of 96% of potential available reserves

**Table ES-8/4-58: Peace River Greenway Initiative (PRGI) Areas:** As set forth herein, the Peace River Greenway Initiative (PRGI) includes primarily uplands and agricultural lands not subject to Corps or EPA regulatory jurisdiction.

Consideration of the Initiative map areas (or of IHN areas) as avoidance concepts does not comport with the goals of the PRGI nor do they appear to be consistent with available site-specific data. CF's Preferred Alternative already incorporates and integrates creation of integrated riparian corridors and adjacent native habitat and connectivity to the IHN, both key goals of the PRGI. Strict avoidance of the PRGI areas (which do not appear to be properly mapped) is not required or even preferable to achieve the restoration and connectivity goals of the PRGI.

Avoidance of PRGI Areas = Loss of 64% of potential available reserves, primarily through avoidance of upland areas

**Table ES-9/4-59: High-Quality Wetlands Identified by Applicant:**[17] CF agrees with the concept of on-site alternatives based on the actual conditions and functions of the wetlands and surface waters on site. This concept has already been incorporated into CF's Preferred Alternative. However, it must be recognized that the DAEIS does not assess site-specific considerations such as mine logistics, feasibility, and practicability of additional avoidance beyond what is already reflected in the Preferred Alternative. CF has previously conducted a logistical and technical practicability analysis of additional avoidance of high-quality wetland and surface waters. *See* CF SPE ACOE Application, Environmental Narrative.

1,500 Foot Buffer = Loss of 65.6% potential available reserves

3,000 Foot Buffer = Loss of 46.4% potential available reserves

6,000 Foot Buffer = Loss of 27% potential available reserves

**Table ES-10/4-60: Applicant-Mapped Perennial and Intermittent Streams:** [18] The streams as mapped for purposes of these tables do not comport with the site-specific, field-verified stream mapping undertaken by CF, which is in the process of being verified as part of the wetland jurisdictional determination being undertaken for the site. These numbers do not accurately reflect the existence of length of streams on the Extension parcel. CF's Preferred Alternative already incorporates avoidance of intact natural (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.

1,500 Foot Buffer = Loss of 35.3% potential available reserves

3,000 Foot Buffer = Loss of 18.4% potential available reserves

6,000 Foot Buffer = Loss of 7.6% potential available reserves

On-Site Alternatives Tables. CF requests that the DAEIS On-Site Alternatives tables be revised to reflect a comparison, on a project by project basis, of (1) the total acres of the project site; (2) the Preferred Alternative mine footprint acres; (3) the other on-site alternatives mine footprint acres; and (4) the additional acres disturbed but not mined for ditch and berm systems. Percentages of reserves preempted, as well as a percentage of additional acreages likely

[17] It is unclear why the DAEIS shows the same net mineable area resulting from implementation, variously, of 1,500, 3,000, and 6,000 foot buffers around high-quality wetlands. Enacting a buffer that doubles, then quadruples, the size of the avoidance would necessarily result in a substantially smaller mine footprint. It is unclear how these acreages were derived. This appears to be an error.

[18] Enacting buffers that double, then quadruple, the size, would result in a substantially smaller mine footprint. It is unclear how these acreages were derived. This appears to be an error.

preempted by mining logistics (using the DAEIS assumptions, for ease of comparison, but with the appropriate caveats) under each alternative should be included in the tables.

## F. Comments on Ecological Resources (ES.7.1, Chapter 3, Chapter 4)

It is inaccurate to suggest, as is done in the Executive Summary, that a cumulative impact to wetlands and streams will result from mining the proposed and reasonably likely future mine sites if they are not avoided. DAEIS Section E.S.7.1. First, there has been a demonstrated increase in wetland/stream acreage since 1999 as a result of reclamation. *See* Attachment B (Technical Comments). Similarly, the CF Preferred Alternative results in a 14% increase in wetlands on-site over existing conditions. It must be remembered that, unlike residential urban/commercial development (or even most agricultural uses) phosphate mining does not permanently reduce native habitats nor leave permanent infrastructure in place. In contrast, mining projects must implement both wetland mitigation, (requiring replacement of physical, chemical and biological functions of wetlands and surface waters based on the Uniform Mitigation Assessment Methodology (UMAM) and other qualitative assessment tools), and type-for-type, acre-for-acre, foot-for-foot mandatory reclamation of wetlands and streams on-site (something not required of other land uses). Detailed site-specific analysis prior to construction of the wetland systems and comprehensive monitoring and maintenance afterward assure they will be successful. *See* comments on Mitigation (Chapter 5) and Attachment E (Reclamation Package); *See* Attachment D.

CF's ability to restore riparian corridors and provide interconnectivity to PRGI Lands, IHN Lands, or other lands targeted for conservation, must be considered when assessing cumulative impacts associated with mining activities. The ES and Chapters 2 and Chapter 4 should recognize the positive contributions to wetland, floodplain and stream conservation afforded by reclamation and subsequent post-reclamation preservation. As discussed in our comments to Chapter 3, reclaimed wetlands account for much of the increase in wetland acreage documented between 1999 and the present. Further, restoration of systems seriously damaged by ditching and other agricultural impacts can often best be accomplished through reclamation; the large expenditure of funds necessary to accomplish restoration and subsequent maintenance and management of restored systems makes strict environmental restoration projects generally unavailable through public means. *See* Attachment D (CF SPE) and E (CF Financial Assurances).

If damaged systems are simply avoided, the economic and human nutrition benefits associated with the mining and extraction of phosphate rock (see above) would not occur, and the environmental benefits associated with restoration of damaged systems would also not occur (see above; *see also* Attachment D (CF Application; CF ERP). Thus, as set forth below, the focus of avoidance efforts needs to be site-specific and must focus on the function and quality of the

specific wetland or surface water at issue; these decisions cannot reasonably be made with reference only to regional data.

The ability of the phosphate industry to restore wetland and surface waters to equal or improved ecological function and condition following mining and to create post-reclamation native landscapes that achieve state and local habitat creation/corridor goals should part of the Environmental Consequences analysis—any comparison of on-site alternatives is incomplete without consideration of the post-reclamation/post-preservation landscape. It should further be recognized that simple avoidance of certain types of systems (*e.g.*, all streams and their floodplains, all forested wetlands, etc.) would often leave those systems impacted by ditches and drainage features, fragmented, and surrounded by altered habitat such as improved pasture.

As the DAEIS demonstrates, phosphate mining has already reached its peak in terms of acres impacted compared to acres reclaimed, and reclamation is now outpacing mining. Reclamation will continue to outpace mining in the Peace River watershed through 2045, by which date CF's SP and SPE are expected to be fully reclaimed. The FAEIS should make clear that wetland and stream acreage in the Peace River Watershed will *increase* over time as mining is followed by reclamation in phases across each proposed mine site. That increase *will not occur* but for the proposed projects. CF submits that the data and analysis in the DAEIS and Administrative Record compel a conclusion that the proposed projects will not have an adverse direct, indirect, or cumulative impact on wetlands or surface waters in the study area if mitigated as proposed. Supplemental information, attached hereto as Attachment E, further supports the Administrative Record in this regard.

## G. Water Resources Impacts and Analysis (Chapters 3 & 4)

CF concurs that hydrologic analyses, including hydrologic analyses submitted by CF to support its water use permit and ERP for the SPE, as well as other modeling analyses prepared by Ardaman and Associates, Inc., AMEC, Hydrosystems Associates, Inc., and others, demonstrate a predicted increase in ground water levels over time and cumulatively show no adverse impact as a result of past, present, or proposed phosphate mining. The appendices recognize this, but the DAEIS is not clear. This is not due solely to a reduction in agricultural pumping, but also due to the gradual replacement of mine excavation areas with reclaimed areas. This result occurs in the No Action Alternative as well as implementation of all of the projects as proposed.

However, this portion of the DAEIS does not fully reflect Appendix D of the DAEIS or the other analyses noted above, and does not acknowledge that most of the current and future recovery of the Floridan Aquifer System (FAS) is a direct result of the conservation efforts and reductions in water use already achieved by the phosphate industry. Agricultural water use has decreased and is expected to continue to do so due to land use transition; additionally, the Southwest Florida Water Management District's (SWFWMD's) investment in irrigation conservation and

alternative water supply projects, SWFWMD's Southern Water Use Caution Area (SWUCA) rules, and cooperative funding programs will result in future reductions through conservation practices of all user groups, not just phosphate mining. The phosphate industry has led other water use sectors in conservation, resulting in a current water usage of 800 to 1,000 gallons per ton of rock produced or a reduction in usage from approximately 3,500 gallons per ton from historic levels (a 75% reduction).

CF believes the hydrological analyses reflected in the DAEIS could be improved by incorporating the following considerations.

First, the streamflow analyses presented in the DAEIS should be revised to incorporate a more reasonable estimate of surface water capture and use in the mine recirculation system. As noted in the DAEIS, the assumption of 100% capture is a conservative assumption (it over-predicts the potential impacts). However, the fact that an assumption is conservative does not necessarily mean it is reasonable. Assuming more capture than actually proposed for future mining and less capture than actually occurs for current mining results in predicted impacts that are significantly greater than what will actually result from the proposed mining. This is unreasonable because it ignores the contribution to average annual streamflow from both the groundwater outflow from the ditch and berm (recharge) system and the discharges from the mine recirculation system through the permitted National Pollutant Discharge Elimination System (NPDES) outfalls.

The assumption of 100% capture is unreasonably conservative because none of the proposed projects have sufficient storage capacity to capture and use all of the net rainfall (rainfall minus evapotranspiration minus deep recharge) that is captured behind their respective ditch and berm systems. As correctly stated in the DAEIS (Appendix E, pg. 23), the ability to capture and use surface water is related to the capacity of the recirculation system to store water. The only storage available in the mine recirculation system is the storage available within unreclaimed mine cuts prior to backfilling and the storage available in clay settling areas before they are filled with sedimented clay. Any water stored in these areas prior to filling will be displaced during filling with either sand or clay. An analysis conducted by Ardaman & Associates, Inc. (Ardaman), of the storage volume available in clay settling areas at any given time indicates that the volume available for water storage (*i.e.*, the volume greater than the volume required for clay settling) is on the order of 5,000 acre-feet.[19] It is not feasible to build additional storage because mined areas are typically not available to construct additional storage. Water storage in the clay settling areas is limited to about 10 feet and a significant percentage of this volume is required to provide the necessary retention time for clay settling. Monthly water budget analyses indicate that a capture percentage in the range of 25 to 35% is a reasonable target for a modern phosphate mine. Although the quantity of groundwater used in the mining process per ton of phosphate

[19] *Surface Water Capture by Current and Proposed Phosphate Mines and Potential Impact to Streamflow, Peace and Myakka River Watersheds*, Ardaman & Associates, Inc. (2012)

rock produced could increase in the future if the relative clay content of the matrix increases, the quantity of surface water used per ton of phosphate rock is not expected to change significantly in the future, because the available storage capacity in the mine recirculation system will not change significantly.

The assumption of 100% capture is also contrary to the capture percentage proposed in both the SPE ERP Application and the Mosaic Water Use Permit (WUP) Application. Both applicants maintain accurate records of groundwater withdrawals used in the mining process, daily rainfall, area mined and reclaimed, and measured discharges through permitted NPDES outfalls. The water budgets prepared by both companies for the WUP and ERP applications are verified based on these data. Mosaic has proposed to capture and use approximately 20 to 30 percent, and CF has proposed to capture and use approximately 40 percent of the total streamflow contribution associated with the area separated from the stream systems by the perimeter ditch and berm systems. The data from the NPDES outfalls document that there is not enough storage in the recirculation systems to contain all of the net rainfall, particularly during years with above average rainfall. A significant quantity of net rainfall is used to maintain groundwater outflow through perimeter recharge systems at pre-mining levels. Furthermore, although water conservation practices have improved during the last decade, the design and operation of the perimeter recharge systems have also improved during the same time frame and a greater percentage of the net rainfall captured by the ditch and berm systems now leave the systems as groundwater outflow and is not available for makeup water to the system.

Accordingly, a reasonably conservative estimate of surface water capture for both current and future mining appears to be much closer to 50% than 100%. It is Ardaman's opinion that the streamflow analyses in the DAEIS would provide significantly better, yet still conservative predictions of present and future surface water quantity impacts, if the more reasonable estimate of 50% capture were used in the analyses.

Second, the capture area for current mining operations should be considered in the streamflow analyses. In general, the stormwater capture area moves across the mine site as new areas are mined and previously mined areas are reclaimed. These areas generally can be and are reconnected to downstream waters (and stormwater no longer captured) after the area is initially revegetated, so the period of capture is not extensive. The 2010 streamflow data sets represent the cumulative effects of all prior development in the subject watersheds. This data set already includes areas currently being captured behind the ditch and berm systems at all active mines. During the past ten years or more, both applicants have used as much of the captured water as possible as makeup to the recirculation system. This means that future mining, assuming steady-state capture, should not affect streamflow relative to the base year. Only if the capture area changes will a change in streamflow occur. Only the change in capture from the 2010 base year (plus or minus) should be used in the surface water cumulative impact analyses.

The current capture area within the Peace River basin above Arcadia is approximately 18,000 acres. The rate of reclamation for this capture area has equaled or exceeded the rate of mining since 1994 and will continue to exceed mining. Accordingly, the capture area continues to decrease with the proposed mining through 2045; a cumulative impact analysis based on the assumption of similar capture percentages for existing and proposed mines throughout the period predicts increased streamflow throughout the entire period. The current capture area within the Horse Creek basin above Arcadia is approximately 11,000 acres. With the addition of the Mosaic Wingate East, Ona and Desoto mines and the SPE project, the net area captured in the Horse Creek basin increases to a maximum of approximately 24,000 acres by about 2035. For Horse Creek, the net increase in area captured will result in reduced average annual stream flows relative to the No Action Alternative until 2035, after which average annual streamflow will increase in the basin. Nevertheless, because of predicted changes in other land uses in the basin, including urbanization (addressed in the following paragraph), the results of a cumulative streamflow analysis for both the applicants' Preferred Alternatives and the No Action Alternative indicate increasing average annual stream flows throughout the period between 2012 and 2060.

Third, the increase in average annual streamflow in the Peace River, Horse Creek and upper Myakka River sub-basins resulting from land use changes in the basin, which is unrelated to surface water capture by mining should be addressed more clearly in the FAEIS. For the No Action Alternative, the surface water analyses contained in the DAEIS predicts increases in the average annual streamflow in the Horse Creek and Peace River drainage basins for the entire period between 2020 and 2060. The average annual streamflow in Horse Creek measured at Arcadia is predicted to increase by approximately 6% (from approximately 200 cfs in 2020 to approximately 212 cfs in 2060, or an increase of about 12 cfs; DAEIS, Appendix E, Table 5, pg. 34). The average annual streamflow in the Peace River measured at Arcadia is predicted to increase by approximately 13% (from approximately 800 cfs in 2020 to approximately 900 cfs in 2060, or an increase of about 100 cfs; DAEIS, Appendix E, Table 5, pg. 34). These increases are projected solely from land use changes, predominantly urbanization, in the basins.

Fourth, the SWFWMD-mandated reduction of average annual agricultural withdrawals of 50 million gallons per day (77 cfs) from the SWUCA as described in the groundwater analysis section of the DAEIS (pg. 4-15) would increase streamflow in the three basins by an additional amount as a result of the decreased deep recharge to the FAS resulting from the reduction in pumping. This latter increase in flow was not included in the streamflow analyses.

Another reason the DAEIS analysis of water resources is overly conservative is based on its overestimation of groundwater pumpage for the proposed projects. This overestimation makes both the groundwater impacts analysis and the surface water impacts analysis in Chapter 4 overly conservative.

Actual pumping rates at Florida phosphate mines in the past have been significantly less than the SWFWMD-permitted rates for a variety of reasons. One of the most important reasons is the ability of many of the mines to use recycled water in the flotation cells. For many years, it was believed that flotation would not be as effective if water other than once-through FAS water was used in the flotation cells. This is the main reason why withdrawals are so much less today than in the past. Reuse of this water has resulted in significantly less withdrawals. Another important reason for smaller withdrawals than permitted is that the mining companies permit the withdrawals required during drought periods assuming no stored water is available at the end of the preceding year. The current requested quantities assume a 1-in-5 year drought. Withdrawals during average or above-average rainfall years are significantly smaller than withdrawals during extended drought periods.

## H. Water Quality (Chapters 2 and 4)

The overwhelming majority of the data show all basins affected by mining to be in compliance with water quality standards. This is confirmed by industry NPDES monitoring data records. CF monitoring data for the South Pasture likewise shows compliance. Any changes in water quality standards that become effective in the future will be incorporated into the NPDES permits that are required for the proposed projects. The DAEIS should recognize, however, that, unlike the directly correlated industry data, some of the studies utilized are based on a small number of sites and samples, and in some cases what those sites exhibit is inconsistent with the more apparent general pattern for some constituents. Attachment I (*Water Quality and Biological Evaluation of Payne Creek*) has concluded that water quality in Payne Creek, into which all discharges from CF's existing South Pasture mine flow, is equivalent to or better than water quality in other streams in the region meeting Class III standards. Extensive biological sampling performed for that study indicates the presence of a very healthy invertebrate community (based on the Stream Condition Index), as well as a diverse community of native fishes. The stream has maintained this positive chemical and biological condition as more than 75 percent of its watershed was mined for phosphate, including ongoing mining activities on South Pasture. These data further support the assertion that mining activities, as conducted with modern techniques and appropriate BMPs, do not have significant adverse direct, secondary or cumulative impacts on water quality or stream aquatic resources within phosphate mining watersheds.

## I. Economic Resources (Section 4.7; 4.12.3.6).

For decades, phosphate mining has been a major economic driver of the economy of Central Florida and the surrounding region.[20] As a vital ingredient to a stable domestic food supply,

[20] According to the DAEIS (p. 4-244), "while the economic effects would have the greatest individual impact on Hardee DeSoto, and Manatee Counties, in that order, all 8 of the counties included in this evaluation, and the region as a whole, would experience some level of economic benefits due to the indirect and induced effects of the mine projects envisioned."

phosphate and the activities required to process and transport this vital mineral reach far beyond the mine site in shaping a significant economic profile for Central Florida. In fact, estimates indicate every job provided by the industry accounts for at least five other positions through impacts on shipping, transportation, and other supporting industries. The future of the phosphate industry, and the regional and statewide economic advantages derived from it, will undoubtedly be impacted by the pending evaluations and determinations by the Corps.

Based on the DAEIS, the importance of the phosphate mining industry to the local and regional economy is clear – if pending applications are not approved, there will be a "significant decline in output and employment." CF concurs that cessation of mining will have devastating economic impacts. We simply cannot afford to lose such an important base of economic viability. An economic study conducted for the Port of Tampa concluded the phosphate industry is responsible for 67,000 total direct or indirect jobs in the region and an estimated $5.8 billion of total economic impact. This economic engine is critically linked to the continuation of future phosphate mining proposed in the applications considered in the DAEIS and pending before the Corps. *See* Attachment G.

As the DAEIS indicates, the economic future of counties impacted by phosphate mining operations will be significantly influenced by the Corps' FAEIS and its permitting decisions. CF requests that the DAEIS be clarified to recognize that, in light of the positive economic effects if the proposed projects go forward and negative effects of the No Action Alternative, the proposed projects will have a positive effect on the human environment.

**J. Environmental Justice (Chapter 4)**

It is CF's position that the proposed projects in Hardee County provide positive and demonstrable economic benefits to existing minority and low-income populations and do not disproportionately burden those communities. The economics data supporting the DAEIS demonstrates this; additional information supporting this conclusion is attached.

The largest minority employer in Hardee County relies heavily on business from CF. *See* Attachment I. As Section 4.7 and 4.12 of the DAEIS and Appendix F clearly demonstrate, phosphate mining in Hardee County occurs in relatively rural, unpopulated areas. No disadvantaged communities will be displaced by CF mining operations. CF provides higher-paying, more stable jobs than can be provided by the agricultural industry and significantly higher tax revenues for the County and for the State in terms of both mineral severance taxes and property taxes. Additional severance tax revenues are provided to Hardee County based on its status as a Rural Area of Critical Economic Concern (RACEC). These jobs and tax revenues are only available if phosphate extraction occurs.

In part through revenues from its Hardee Phosphate Complex, CF is able to contribute substantially to charities in the community that serve low-income and minority populations. For

example, from 2007-2012, CF employees and the company contributed over $500,000 to the United Way to the benefit of Central Florida organizations. *See* Attachment I (Environmental Justice). This support can continue with the continuation of mining in the SPE. CF was also recognized in 2011 by the Florida Education Foundation and the Hardee County school system for its "exemplary support of public education" which low income and minority populations depend upon. *See* Attachment I. CF has a long history of fostering long-term partnerships with small local charities in the Region who provide basic social services, youth sports programs, and economic assistance to minorities and low-income citizens. These contributions and partnerships would not be possible if the No-Action alternative were implemented. Further, CF has a multi-faceted outreach program to the Hardee community. CF hosts regular meetings with a Community Advisory Panel and regular business briefings with local business, civic and community organizations to keep them informed about CF's operations.

## K. Mitigation Strategies (Chapter 5)

CF strongly agrees that the Florida phosphate industry conducts wetland mitigation with large-scale system connectivity and the overall watershed in mind. (Section 5.3.1., p. 5-2, lines 29-30). As Section 3.3.5 in the DAEIS clearly states, much of the wetland acreage proposed to be impacted by mining was previously degraded by other non-mining land uses. In addition, the DAEIS presents fact-based technical information related to the evolution of mitigation techniques within the phosphate industry. The DAEIS also provides a thorough explanation of mitigation components, the different mitigation mechanisms, and an overview of the technology and techniques the mining industry currently utilizes to achieve successful mitigation. However, CF believes that more in-depth discussion in the FAEIS (or Appendix) of the data in the record relative to phosphate industry mitigation, in particular, its efficacy in assuring no net loss of waters of the United States, would strengthen this chapter and allow for a better comparison of the alternatives set forth in Chapter 4. Further, CF believes additional information regarding CF's expertise in effecting on-site mitigation on its mined lands should be included. *See* Attachment E (Reclamation Package) and the discussion below.

Chapter 5 (Mitigation) should recognize that the applicants are uniquely qualified to provide on-site, permittee-responsible mitigation that achieves the goals of the Compensatory Mitigation Rule far better than mitigation banking or in-lieu fee mitigation, as further discussed below.

The Compensatory Mitigation Rule (33 CFR Parts 325 and 332), is designed to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function and to increase the efficiency and predictability of the mitigation project review process. CF acknowledges this fact and provide the following information in support of the phosphate industry permittee-responsible mitigation method as a demonstrated effective way to achieve the goals of mitigation, consistent with the intent of the Compensatory Mitigation Rule.

Compensatory mitigation is a young science, with the earliest wetland creation projects being constructed in the mid-1970s. Modern phosphate mine reclamation also began at that time and has been continually evolving as technology improves, associated regulations become more stringent, and the socio-political environment changes (Durbin et. al., 2008). In contrast, mitigation banking did not exist until 1982 and the first entrepreneurial credit sale did not occur until 1994 (Hough and Hall, 2005).

The industry-standard permittee-responsible onsite mitigation meets the intent of the Compensatory Mitigation Rule. According to the April 2008 Notice published in the Federal Register, this rule "*improves the planning, implementation and management of compensatory mitigation projects by emphasizing a watershed approach in selecting compensatory mitigation project locations, requiring measurable, enforceable ecological performance standards and regular monitoring for all types of compensation and specifying the components of a complete compensatory mitigation plan, including assurances of long-term protection of compensation sites, financial assurances, and identification of the parties responsible for specific project tasks.*"

The rule emphasizes that the process of selecting a location for compensation sites should be driven by assessments of watershed needs and how specific wetland restoration and protection projects can best address those needs; requires measurable and enforceable ecological performance standards for all types of compensation so that project success can be evaluated; requires regular monitoring to document that compensation sites achieve ecological performance standards; clearly specifies the components of a complete compensation plan based on the principles of aquatic ecosystem science; and emphasizes the use of science-based assessment procedures to evaluate the extent of potential water resource impacts and the success of compensation measures.

In 2003 the Florida Legislature mandated a study of the cumulative effects on landforms and hydrology primarily due to mining, agriculture, and urbanization in the Peace River basin. The results of this study were used to prepare a management plan for the Peace River basin to minimize existing and potential future adverse cumulative impacts to the resources of the basin. The DAEIS considered key factors in the cumulative effects evaluation including the Peace River Cumulative Impact Study (PRCIS) results. Based on this evaluation provided in Section 4.12.1.5 of the DAEIS, the cumulative impacts from the currently proposed projects, as well as reasonably foreseeable mines, are reasonably expected to be insignificant. Industry-implemented onsite compensatory mitigation, in conjunction with avoidance and minimization of wetland impact, allows for the preservation, restoration, enhancement, and creation of onsite resources integral to the local watershed, which offsets cumulative effects. In addition, CF's Preferred Alternative aids in the recovery from some of the historic resource losses documented in Chapter

2[21] (through the addition of wetland acreage and stream length back to the basin) and adds protection to several un-impacted riparian areas, in perpetuity.

CF suggests that the purposes of the IHN (on which the PRGI purports to be PRGI based) be clarified in the FAEIS. The FDEP BMMR outlined its concept for the IHN plan in 1992 in its publication "A Regional Conceptual Reclamation Plan for the Southern Phosphate District of Florida." The IHN is a guide for the reclamation of mined phosphate lands throughout this area that endeavors to maximize habitat replacement, connection and water resource protection. Within the IHN, the largely undisturbed riverine floodplain lands make up the "core," while the adjacent reclaimed "buffer" lands complement and enhance the habitat value of the core lands. With appropriate management, these areas would benefit the water quality and quantity in the area, improve wildlife habitat, and serve as connections between the mining region's rivers and significant environmental features outside the mining region. This purpose is not fully articulated in the DAEIS and therefore should be incorporated into the FAEIS.

The FAEIS should better recognize the exhaustive and extensive avoidance/mitigation/ reclamation plan submitted by CF as its Preferred Alternative; the reclamation/mitigation proposed by the applicant will achieve greater regional ecological benefits than simply avoiding and buffering all resources of a certain type. *See* FDEP Final Order and Proposed Recommended Order CF SPE ACOE Application, Excerpts (Attachment D). Thus, as noted above, alternatives assessments should be based on the ability to achieve regional ecological benefits based on an evaluation of the actual quality and function of the wetlands or surface waters at issue once the permit-required and Corps-enforceable mitigation has been implemented; that is a basic premise of NEPA.[22] Requiring avoidance simply based on surface water type or inclusion in a regional dataset can prevent reclamation plans from achieving that regional goal, and this should be recognized in the FAEIS.

A key component of the overall strategy for maintaining habitat for populations of protected species is the avoidance of mining disturbance in the areas of highest habitat quality. Avoidance of these areas will provide benefits to listed and non-listed species by protecting the best native wildlife and plant habitat and by providing contiguous wildlife corridors. In addition, these areas will also serve as the primary source from which plants and wildlife will re-colonize reclaimed native habitats. Further, reclamation community types that are appropriate for a more intensive, compatible human use are strategically placed within the landscape away from sensitive community types. Phosphate reclamation plans can accomplish this in a manner that other development mitigation plans cannot, given the requirement under state law to reclaim all mined and disturbed land to some beneficial use and to provide on-site acre-for-acre, type-for-type replacement of impacted wetlands and streams and the ability of the applicant to cluster the

[21] See however CF comments on land use cover types set forth above.
[22] *Forty Questions* at 19.

reclaimed lands in landscape locations that meet multiple local and regional goals. CF has an exemplary record of creating successful mitigation areas and believes implementation of this plan at the SPE will likewise be successful. *See* Attachment E.

The evolution and improvement of mitigation/reclamation techniques can be generally separated into three categories: Landscape Level considerations, Site-Specific considerations, and Management and Monitoring considerations. These categories were used by Durbin, et. al. (2008) in providing recommendations for continued improvement in the creation of wildlife habitat on reclaimed lands. Many of these recommendations are evident in the pending applications and some have been retroactively implemented on previously issued permits. It is also important to note that many of these recommendations may only be implemented onsite once mining is complete; however, others are offered as "up-front" compensation prior to mining.

Landscape Level considerations achieved on-site include the permanent protection of thousands of acres through conservation easements. This acreage includes the preservation of high-quality wetlands and upland buffers, as well as enhancing areas within the No Mine Boundary as mitigation provided prior to mining (enhancement and preservation). Wetland impacts are then staggered throughout the mine life, which allows for additional mitigation to occur concurrent with those impacts. Current plans also include the permanent protection (through conservation easements) of unmined lands and additional reclaimed areas after mining to provide additional buffers from future development. The integration of these permanently-protected areas with adjacent reclaimed habitats provides the backbone of the IHN, reducing fragmentation in the post-reclamation landscape.

One important Site-Specific consideration incorporated into CF's proposed mining and mitigation plans is extensive integrated surface water/groundwater hydrology modeling; as recognized in the DAEIS, CF has been conducting some form of integrated modeling for over 15 years. The MIKE-SHE modeling used to develop the SPE post-reclamation landforms and landscape provides a high level of certainty that post-reclamation water levels within restored, created, enhanced or preserved wetlands will sustain the systems planned. Because of predictive integrated modeling and advanced technology, mitigation hydrology is more consistent in both the preserved and reclaimed areas. If the hydrology is correct, then the appropriate vegetation is readily established and naturally sustaining. Additional site–specific considerations included in the current plan are the use of sand tailings as the base for all wetland construction and direct transfer of native topsoil and/or muck to increase native plant species diversity, as well as tree-spading to increase structural diversity prior to natural recruitment/establishment. This level of detail is rarely offered with other development mitigation plans, and the resources to conduct these complex techniques are not typically available in development or mitigation bank construction projects. Mining provides the opportunity to implement these types of site-specific

practices that are not feasible (or rarely conducted) in a mitigation bank (Brown and Carstenn, 2009). For example, CF has pioneered stream restoration techniques at the South Pasture that have been refined for the SPE; those techniques have been effective at restoring stream functions. CF is aware of no mitigation banks in the state that offer "stream credits." *See* CF's SPE ACOE Application, Stream Restoration Plan. In addition to the above comparisons, mitigation banks serving the Peace River watershed have insufficient forested and non-forested credits available for the projects and the bank's credits would then be depleted for use by other development for which on-site mitigation is not desirable (*e.g.*, a shopping mall).

Current Wetland Mitigation Bank Credits Available in Service Area*:

| | | | | State Credits | | | | Federal Credits | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Available | Available | To Be Released | To Be Released | Available | Available | To Be Released | To Be Released | | |
| Bank Name | Basin | State Credit Type | Federal Credit Type | Non-Foreste | Forested | Non-Foreste | Forested | Non-Foreste | Forested | Non-Foreste | Forested | Wood stork Availability | Future Planned Expansion |
| Boran Ranch | Peace River | UMAM | WRAP | 36.65 | - | 4.38 | - | 13.13 | - | 99.08 | - | Yes | Yes - 2013 |
| Peace River | Peace River | UMAM | UMAM | - | 42.39 | - | 35.86 | - | 23.54 | - | 43.32 | Yes | Yes - 2015 |
| Myakka | Myakka Rive | UMAM | UMAM | 45.65 | 8.49 | 66.35 | 87.61 | 22.15 | 9.76 | 97.12 | 89.44 | No | No |

*Collected from the SWFWMD WMIS ERP Database

The most recent developments in Management and Monitoring considerations have also been incorporated into the permittee-responsible onsite mitigation plans proposed by the phosphate industry. For wetlands, mitigation success is measured using established success criteria for several parameters including vegetative community composition and survivorship, hydrology, exotic species abundance, and wildlife usage. The time required to reach mitigation success varies based on the type of wetland targeted and site conditions. Opinions vary regarding the time that created wetlands require to reach full functionality; however non-forested wetlands, such as marshes and wet prairies, reach final successional stages faster than forested wetlands. Kiefer (1991) reported that with good initial establishment and weed control, marshes reclaimed on mined land tended to reach final successional stages relatively quickly, often in less than 5 years. Forested wetlands take longer to mature, primarily due to tree growth, and typically require more weed management and supplemental plantings (Kiefer, 2011; Brown and Carstenn, 2009). However, these have also been successfully established on mined lands. *See* Attachment E.

All of these above variables result in functional systems well prior to final regulatory release. CF has demonstrated a legacy of creating functional systems onsite that adequately meet the compensatory mitigation requirements to offset functional losses, as documented in the DAEIS mention of FDEP's review of released reclamation wetlands. This review was conducted using UMAM, which is a Corps-accepted method of measuring wetland function and calculating mitigation necessary to offset wetland impacts. A similar review of unreleased wetlands created

at CF also revealed high functional value while on the positive trend toward release from regulatory responsibility. *See* Appendix E (Reclamation Package). UMAM is an effective tool in measuring change in function and has been routinely used in Florida to demonstrate the value of permittee-responsible onsite mitigation. It should be noted that the "reported released" acres in the DAEIS fail to recognize that "release" is a regulatory concept that understates the acres of wetlands that have been functionally replaced on mined lands, due to monitoring, vegetation maturation, and CF's practice of seeking release not of individual wetlands but of larger integrated blocks of land where fully functioning wetlands exist, for which release has not been sought. *See* Attachment E.

Despite the differences between permittee-responsible onsite mitigation and mitigation banks highlighted in the Compensatory Mitigation Rule, there are several similarities, especially when considering the scale at which the phosphate industry operates, the technical expertise in mitigation science, the planning and permitting required, and the financial assurances provided by the applicants. For instance, the SPE site is large enough to complete mitigation that provides watershed-scale mitigation benefits greater than many banks within the SWFWMD. The mean size of the permitted mitigation banks within the SWFWMD is approximately 397 acres. The mean size of the post-reclamation wetland acreage of the four proposed mines is approximately 3,680 acres and many more acres of uplands and streams would also be proposed. This represents well over a ten-fold difference in total acreage where mitigation would occur, as well as an increase in wetland acreage by a mean of 25.5% (DAEIS Table 5.1 through 5.4). Specifically, as to CF, its SPE Preferred Alternative will result in a 9% increase in on-site wetlands and a 14% increase in on-site streams. The phosphate industry has a history of ever-improving wetland mitigation efforts that date back over two decades prior to mitigation banks and employs the latest scientific and technical methods to achieve functional replacement (as well as acreage) of impacted wetlands. In addition to the greater size by the proposed mines, the expertise held by CF staff and consultants in the hydrology and ecology of wetland creation on mined lands is unparalleled. On-site permittee-responsible mitigation within the industry is conducted on a watershed scale and serves to replace functions of lost wetlands as well as improve functions of areas preserved within the mine.

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In closing, CF appreciates the opportunity to submit the foregoing and attached comments and additional data to supplement and refine the DAEIS as it is being finalized. CF will continue to work with the Corps and other regulatory agencies to address comments raised specifically relative to the SPE project and CF's ongoing South Pasture operations. CF welcomes the opportunity to further address and clarify the extensive monitoring, data collection and analysis, and impact assessments (including alternatives assessments) already in the record for CF's DA Application for the SPE project. We expect to work closely with Ms. Angela Ryan as the project reviewer in supplementing the alternatives assessment and environmental consequences

assessment in that application in light of the DAEIS. As set forth above, site-specific project details and data are crucial for those assessments, and we fully expect and request that the application-specific assessments needed to meet regulatory requirements will be incorporated into the FAEIS and Corps Record of Decision for the SPE project.

Again, CF commends the Corps for its efforts in preparing the DAEIS and look forward to the issuance of the FAEIS and final Record of Decision for the SPE. We are confident that the analyses in both documents support issuance of the DA Permit for the SPE as proposed.

Sincerely,

Craig A. Kovach, P.G.
Director, Environmental Affairs
Phosphate Operations

cc: Angela Ryan (w/o attachments)

Attachments:

Attachment A: CF Comments Table
Attachment B: CF Technical Corrections Table
Attachment C: CF Résumé Package
Attachment D: CF SPE Preferred Alternative Details
Attachment E: CF Reclamation Demonstration Package
Attachment F: Map – CF Reanalysis of Alternative Sites D & E
Attachment G: CF Economics Package
Attachment H: Water Quality and Biological Evaluation of Payne Creek (July 2012)
Attachment I: Environmental Justice
Attachment J: CF Recharge System Design and Implementation Practices (4/12/2012)

# EXECUTIVE SUMMARY

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 1 | ES.4 | 3<br>4 | 24-34<br>1-9 | The issues identified in the scoping process have been addressed. This should be recognized in the Final AEIS. *See* Comment Letter at Section IV, Subsection B. |
| 2 | ES.5 | 4 *et seq.* | 10 *et seq.* | *See* Comment Letter at Section IV, Subsection D, #2 and at Section IV, Subsection E. |
| 3 | ES.5 | 4 | 20-21 | *See* Comment letter at Section III, Subsection C and Section IV, Subsection A and Subsection E. Site specific data should be used in lieu of regional data where available and possible. *See also* Chapter 4 comments. |
| 4 | ES.5.2 | 8 | 1-11 | *See* Comment Letter at Section IV, Subsection E; parcels owned by competing phosphate mine company Mosaic are not "available" to CF and are therefore not reasonable or feasible alternatives to CF's Preferred Alternative site. [It should also be noted that the nomenclature applied to refer to CF's South Pasture Mine Extension needs to be made consistent throughout. *See* Technical Corrections package. |
| 5 | ES.6.1 | 14 | 5-7, 12 | *See* comments in Chapter 4: Section 4.2.1, page 3, lines 1-3. |
| 6 | ES.6.1 | 14 | 12 | The Peace River Greenway Initiative data includes mostly upland areas and significant amounts of agricultural lands. *See* Comment Letter at Section IV, Subsection A and Subsection E, #1. There appears to be little ecological or hydrologic basis for inclusion of the Peace River Greenway Initiative area as a potential avoidance area. The goals of the PRGI recite the intention to create riparian corridors utilizing preserved, reclaimed and restored lands, and the PRGI was founded upon the corridors established for the Integrated Habitat Network (IHN). The GIS layer apparently provided by the PRGI does not reflect that goal, given its apparent inclusion of agricultural lands and uplands. As in Comment Letter at Section IV, Subsection D, #1, and Subsection K on IHN; the IHN relies on restoration of riparian corridors and habitat nodes. CF requests that avoidance of the PRGI-identified areas not be included as an on-site alternative to CF's Preferred Alternative because it is not scientifically or ecologically justified. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 7 | ES.6.1 | 16 | 3-9 | "The alternatives must either be located within 10 miles of an existing beneficiation plant that would be able to process the materials excavated at the alternative mine, or a new beneficiation plant would be required as an element of the alternative." Offsite alternatives analysis for the majority of the off-site alternatives are not reasonable or feasible for CF to extend the life of its existing beneficiation facility. *See* Comment Letter at Section IV, Subsection D, #2 and Subsection E. |
| 8 | ES.6.1 | 17-21 | Tables ES-5 – ES-11 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4:<br>• Section 4.10, page 154, Tables 4-55 – 4-61<br>• Section 4.10, pages 156-160<br>• Section 4.10, pages 158, lines 7-13<br>• Section 4.10.1, pages 160-163<br>• Section 4.10.4, Page 163<br>• Section 4.10.4.1, page 163, line 10<br>• Section 4.10.4.2, page 163, line 12 |
| 9 | ES.6.1 | 18 | Table ES-5 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4:<br>• Section 4.2.1, page 3, lines 1-3<br>• Section 4.10, page 156, Table 4-55 |
| 10 | ES.6.1 | 18 | Table ES-6 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4: Section 4.10, page 157, Table 4-56 |
| 11 | ES.6.1 | 19 | Tables ES-7 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4: Section 4.10, page 158, Table 4-57 |
| 12 | ES.6.1 | 19 | Tables ES-8 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4: Section 4.10, page 158, Table 4-58 |
| 13 | ES.6.1 | 19 | 5 | *See* CF's Technical Corrections package for some adjustments to the site-specific data used in the DAEIS analysis. |
| 14 | ES.6.1 | 19 | 8 | The proposed mining and reclamation plans do not necessarily equate to "a lesser level of environmental protection." *See* Comment Letter at Section III, Subsection H, Section IV, Subsection E, Subsection F, and Subsection K. Likewise, avoidance of streams and wetlands and creation of excessive setbacks does not result in greater environmental protection. The |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| | | | | site-specific effects of avoidance of specific environmental or ecological resources on a site must be examined in light of the quality and uniqueness of that habitat on the site, the surrounding landscape (e.g., is it surrounded by pasture or forest? Part of a riparian corridor or relatively isolated?), connectivity or ability to connect to riparian corridors and to create integrated landscapes, and the ability to restore the impacted systems to the same or better condition. The permanence of the protection afforded by mitigation (compared to potential development of the resource in its unprotected condition) must be assessed. |
| 15 | ES.6.1 | 20 | Table ES-9 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4: Section 4.10, page 159, Table 4-59 |
| 16 | ES.6.1 | 20 | Table ES-10 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4: Section 4.10, page 159, Table 4-60 |
| 17 | ES.6.1 | 21 | Table ES-11 | *See* Comment Letter at Section IV, Subsection E, #1.<br>*See* comments in Chapter 4: Section 4.10, page 160, Table 4-61 |
| 18 | ES.6.2.1 | 22 | 5-6 | CF concurs that recharge ditch and berm systems are effective in protecting avoided and off-site resources from hydrologic and ecological impact. *See* Comment Letter at Section III, Subsection E and Section IV, Subsection G and above. However, for CF's South Pasture Mine, these have not simply been "pilot studies" but rather actual ongoing operations of the South Pasture Mine, which have demonstrated the ability of CF to protect preserved areas from adverse impacts due to mining. It must also be recognized that, on conclusion of mining and initial revegetation, the ditch and berm system are removed, and no further mining impacts occur if reclamation is implemented as proposed in CF's Preferred Alternative. *See also* Attachments E and J. |
| 19 | ES.7 | 30 *et. seq.* | 24 *et seq.* | This section of the AEIS should include an analysis or at minimum a list of the mining operations that are in the same geographies during overlapping time periods (current active mines). |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 20 | ES.7.1 | 31 | 14-18 | It is inaccurate to assert that there will be cumulative losses of 10,000 acres of jurisdictional wetlands and 260,000 linear feet of streams, because this implies that the impacts will be permanent and not both be offset by mitigation and replaced on-site by reclamation. However, assessment of individual cumulative impacts must take into account permit-mandated mitigation to offset those impacts, and CF's state permit for the South Pasture Extension requires mitigation that will result in an overall increase in both wetland acres and linear feet of streams on-site. The text here should be clarified. *See* Comment Letter at Section IV, Subsection E, #1, Subsection F and Subsection K. |
| 21 | ES.7.1 | 31 | 19-21 | It is important to recognize, as the DAEIS does here, that CF's proposed mitigation includes both acre-for-acre, type-for-type replacement plus additional mitigation. It should be recognized that substantial preservation of both avoided and mitigation areas is also part of CF's mitigation plan. *See* Comment Letter at Section III, Subsection B and Subsection H, Section IV, Subsection F and Subsection K. |
| 22 | ES.7.1 | 31 | 22-28 | This is an incorrect statement as applied to CF. CF has provided a detailed mitigation/reclamation plan as part of its DA Application, although the mitigation plan has not yet been approved by the Corps. *See* Comment Letter at Section III, Subsection H and Section IV, Subsection IV. |
| 23 | ES.7.2 | 31 | 31-32 | *See* Comment Letter Section III, Subsection E and Section IV, Subsection G. |
| 24 | ES.7.2 | 32 | 7-11 | *See* Comment Letter Section III, Subsection E and Section IV, Subsection G. |

# CHAPTER 1 – PROJECT PURPOSE AND NEED

**1.1 - Introduction**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 25 | 1.1.1 | 1 | 18 | Replace Port of Tampa *Phosphate Complex* with Port of Tampa Terminal and Warehouse. |
| 26 | 1.1.3.4 | 6 | 8 | Define the source of the 1908 date? North Prong Alafia was mined into 1930's. |
| 27 | 1.1.3.4 | 6<br>8 | 30-34<br>1-15 | The four paragraphs presented on pages 6 and 8 do not fully explain the extent to which Mosaic and CF are regulated. Later chapters remedy this to some extent, but in a piecemeal fashion. |
| 28 | 1.1.3.4 | 8 | 1<br>5-12 | Consider mentioning the encouragement of river mining leases sought out by the Governor's office 1800-1920's.<br>Consider providing the cumulative dollars spent, acres reclaimed, percent of total area mined before 1975, and examples of old lands reclamation (e.g., Oakbridge and others). |

**1.2 – Project Purpose and Need**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 29 | 1.2.1.1<br>1.2.2.3 | 11<br>16 | 5<br>8-9<br>21-32 | Delete "as a result".<br>It should be clarified that the proposed projects will not increase existing annual mining rates. Add: *As shown on Table 1-3, the applications pending before the Corps would not result in increased future production rates, but rather would, if issued, result in maintaining the current production rates through 2035 for the applicants.* However, Table 1-3 should be reviewed against company data for mine/reclamation expected start/end. *See* Comment Letter at Section III, Subsection A and at Section IV, Subsection C. *See* Technical Corrections Table. |
| 30 | 1.2.1.2 | 13 | 2-15 | CF concurs that the economic benefits both of the individual proposed projects and cumulatively to the affected counties and to the region will be substantial. The direct, indirect, and induced economic benefits of CF's South Pasture Mine Extension are set forth in CF's application. *See* Comment Letter at Section III, Subsection F and Section IV, Subsection I. *See also* Attachment G. |
| 31 | 1.2.1.2 | 14 | Table 1-4 | *See* CF South Pasture ACOE Application at Attachment D. *See also* Comment Letter at Section III, Subsection F and Section IV, Subsection I. CF's application provides that the South Pasture Extension will result in 580 direct/indirect jobs, 1.6 million in tax revenues, and 13 years of mining. |

**1.5 – Permit Actions Required**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 32 | 1.5 | 26<br>27 | 25-34<br>1-4 | See Comment 25. Hardee County Mining Overlay Comprehensive Plan amendments and Water Use Permits should be included to help explain the extent of regulations on phosphate companies. |
| 33 | 1.6 | 27 | 4<br>14 | Consider incorporating SWFWMD's Water Use Permit |

**1.7 – Related Environmental Documents**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 34 | 1.7.1 | 27 | 20-28 | Consider adding a sentence summarizing that the 1978 AEIS's preferred alternative was continuation of mining at "new source" mines, including CF South Pasture and Mosaic South Fort Meade, provided the preferred alternatives in subsequent site-specific EISs were consistent with the 1978 AEIS, including preservation of certain wetlands, reuse and recirculation of process water. The 1994 EIS for the South Pasture Mine NPDES Permit (and other mine EISs or EAs done to date) should also be referenced, as well as their consistency with the recommendations for alternatives in the 1978 AEIS. It should be noted that CF's Preferred Alternatives are consistent with the goals and recommendations of the 1978 AEIS. *See* Comment Letter at Section III, Subsection E. *See also* Comment Letter at Section IV, Subsection G and Subsection H. |
| 35 | 1.7.9 | 30 | 7-10 | Consider adding that the final EIS approved the South Pasture Mine construction and operation, including a site-specific wetland avoidance plan and recirculation of process water, through issuance of NPDES permit no. FL0040177, which EPA concluded was consistent with the 1978 Areawide EIS. USEPA was lead agency in preparing both the 1978 and 1994 EIS documents. The Corps was a cooperating agency. *See* Comment Letter at Section III, Subsection E. *See also* Comment Letter at Section IV, Subsection G and Subsection H. |

# CHAPTER 2 – ALTERNATIVES

## 2.1 – Introduction

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 36 | 2.1 | 1 | 10-12 | *See* Comment Letter at Section II, Subsection B, Section III, Subsection B, Subsection C, and Subsection D, and at Section IV, Subsection D and Subsection E. CF concurs that the full discussion of the comparative environmental consequences of each alternative requires site-specific assessment of the effects of each alternative on CF in terms of reasonableness, feasibility and practicability. The DAEIS does not address reasonableness, feasibility, or practicability of the alternatives identified or comparatively assesses the environmental consequences of each. It is recognized that this will be undertaken in the 404(b)(1) analysis conducted in the context of each permit application, which will satisfy that requirement for NEPA purposes as well.<br>As noted in the Comment Letter, however, it must be recognized that comparison of the relative merits of off-site alternatives for CF must recognize CF's purpose to extend the life of its existing operations and utilize existing beneficiation facilities, which limits the applicability of off-site alternatives to relatively large, contiguous parcels located within a 10-mile radius of the beneficiation plant. |

## 2.2 – Range of Alternatives Considered

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 37 | 2.2 | 3 | Table 2-1 | *See* Comment Letter at Section III, Subsection D, Section IV, Subsection D and Subsection E. It is our understanding that to be conservative, the "No Mine" Alternative weighed the pending applications against an assumption that no mine activity at all would go forward at the 4 proposed sites, even though it is recognized that the Corps has no jurisdiction over "upland-only" alternatives. Also, it should be made clear that identified in-fill parcels will not constitute reasonable alternatives to the proposed projects. Further, it is our understanding that the items in **bold underline** on this table will be compared based on application-level feasibility and environmental information and conclusions contained in the FAEIS. CF notes that Mosaic's Preferred Alternatives for its projects are not reasonable alternatives for CF to implement to accomplish its South Pasture Mine Extension project. The alternative to avoid the use of phosphate fertilizers is inconsistent with the USGS conclusion that there is no alternative to the use of fertilizers (page 1-15, lines 6-23). Therefore, we agree that this alternative is not reasonable. We agree that other methods of mining, such as dredge, are not reasonable. CF has no dredge equipment. |

| | SECTION | PAGE(S) | LINE(S) | **COMMENTS** |
|---|---|---|---|---|
| 38 | 2.2.1 | 4 | 17-18 | It should be clarified that while 600 contiguous, relatively compact acres might be an appropriate threshold for in-fill parcels, it is not a reasonable alternative for CF's extension project, as 600 acres constitutes approximately 7% of the size of the South Pasture Extension parcel, and it is generally recognized that 15-25% of any given parcel cannot be mined due to buffers, etc. *See* Comment Letter at Section IV, Subsection D, #2. |
| 39 | 2.2.3 | 8<br>9 | 3-21<br>1-5 | *See* Comment Letter at Section IV, Subsection A. |
| 40 | 2.2.3.3 | 9 | 1-5 | The Peace River Greenway was constructed based on the Integrated Habitat Network, which is based primarily on creation of connected riparian corridors to facilitate wildlife movement. However the Greenway map does not coincide with these riparian corridors. *See* Comment Letter at Section IV, Subsection D, #1 and Subsection E, #1. |
| 41 | 2.2.4 | 9 *et seq.* | 6 *et seq.* | *See* Comment Letter at Section IV, Subsection A, Subsection D, #2 and Subsection E. With respect to CF South Pasture Extension, it must be recognized that only properties within a practicable pumping distance (10 miles) of CF's existing beneficiation plant would potentially be reasonable alternatives for CF's extension project. *See also* Comment on 3.1.5. |
| 42 | 2.2.4.2 | 11 | 20, 33-35 | *See* Comment Letter at Section IV, Subsection D, #2. |
| 43 | 2.2.4.4 | 24 *et seq.* | 9 *et seq.* | *See* Comment Letter at Section IV, Subsection D, #2. |
| 44 | 2.2.4.8 | 57 | 3-19 | *See* Comment Letter at Section IV, Subsection D, #1. |
| 45 | 2.2.4.8 | 63-64 | Table 2-15 | *See* Comment Letter at Section IV, Subsection D, #2. |
| 46 | 2.2.4.9 | 70 | Table 2-17 | *See* Comment Letter at Section IV, Subsection D, #2. |

**2.3 – Alternatives Eliminated from Detailed Evaluation**

| | **SECTION** | **PAGE(S)** | **LINE(S)** | **COMMENTS** |
|---|---|---|---|---|
| 47 | 2.3 | 73<br>74 | 22-34<br>1-4 | *See* Comment Letter at Section IV, Subsection D. |

**2.4 – Alternatives to be Assessed in More Detail – *See* Comment Letter at Section III, Subsection D, and at Section IV, Subsection D and Subsection E**

# CHAPTER 3 – AFFECTED ENVIRONMENT

### 3.1 – Phosphate Mining within the CFPD

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 48 | 3.1.2 | 4 | 12-14 | We concur that this is vitally important. This system was initially implemented as a surface water management practice in response to recommendations in EPA's 1978 AEIS. As set forth in CF's comments on recharge and water quality, they are effective in protecting downstream water quality and off-site/avoided systems. *See* Comment Letter at Section III, Subsection E, and at Section IV, Subsection E, #1, Subsection G, and Subsection H. |
| 49 | 3.1.4 | 5 | 27-28 | *See* Comment Letter at Section IV, Subsection D, #2. |
| 50 | 3.1.4 | 6 | 2-3 | Note that the stage-filling technique (a best management practice to reduce clay footprint) and use of shared CSA walls and capacity in existing CSAs on South Pasture substantially reduce the required footprint for CSAs on the Extension. *See* CF South Pasture Extension Corps Application at Attachment D. |
| 51 | 3.1.5 | 6 *et seq.* | 24 *et seq.* | *See* Comment Letter at Section IV, Subsection D, #2. |

### 3.3 – Key Natural and Human Resources of Concern

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 52 | 3.3.2.1 | 35 | 5-12 | The data and analysis in the AEIS record show that 100% capture is an overly conservative assumption, so on assumption of zero contribution "at times" is not accurate. *See* Comment Letter at Section IV, Subsection G. |
| 53 | 3.3.2.1 | 36 | 1-6 | This section should cross reference the ground water usage/discharge appendix information. *See* DAEIS Appendix D. |
| 54 | 3.3.2.1 | 39 | 12-13 | *See* Comment Letter at Section IV, Subsection G. |
| 55 | 3.3.2.1 | 51 | 10-13 | State correctly what MFL's mean i.e. *before additional withdrawals.* |
| 56 | 3.3.2.2 | 60 | 1-3 | CF data demonstrates no adverse impacts to sensitive habitats due to localized dewatering. *See* Comment Letter at Section III, Subsection E and Section IV, Subsection G. |
| 57 | 3.3.2.2 | 60 | 4-14 | A 1- to 3-ft thick layer of overburden is no longer used to cover the sand-filled mine cuts. This prior practice is no longer used by either CF or Mosaic. The current practice is to mix a small quantity of overburden into the sand tailings to improve the moisture holding capacity of the surficial soil. The small amount of overburden used does not adversely affect rainfall infiltration.<br>Overburden has never been used to cap clay ponds. The uncapped clay is a highly |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| | | | | productive soil, having both high moisture and nutrient holding capacity. With proper drainage, it is an excellent soil for either improved pasture or row crops. It also has a relatively high infiltration rate due to desiccation cracking throughout the upper several feet. Annual surface runoff from reclaimed clay areas is not much different than from typical Florida flatwoods soils. *See* Comment Letter at Section IV, Subsection G and Subsection K. |
| 58 | 3.3.2.2 | 63 | 9-29 | AEIS should note that all four pending applications are located 20-30 miles south of Fort Meade, which is significantly less Karstic.<br>In addition, in light of current water usage by the industry and installation of recharge ditch and berm systems, lowering of the FAS or dewatering of the IFAS surficial aquifer are no longer reasonably likely to occur using modern mining methods. *See* Comment Letter at Section III, Subsection E and Section IV, Subsection G. |
| 59 | 3.3.2.3 | 65 | 4-16 | We concur on the dramatic decrease in industry water use, far below that of other uses; it currently constitutes only 5-7% of total water use in the SWUCA.<br>SWFWMD total water use statistics most recently available should be used. *See* Comment Letter at Section IV, Subsection G.<br>The SWFWMD publishes estimates of groundwater usage throughout the District. The most recent publicly available estimates are for the 2010 calendar year; DAEIS date should be checked against this date. |
| 60 | 3.3.2.3<br><br>3.3.2.5 | 66<br>67<br>71 | 24-34<br>1-2<br>13-17 | We concur with the conclusion in this report that increasing the area of lands mined will not lead to substantial or quantifiable reductions in flow. *See* Comment Letter at Section IV, Subsection G.<br>Consider supplementing the USGS findings with those of the 1978 EPA Areawide EIS, wherein EPA concluded: (1) phosphate mining historically was augmenting flows in the Peace River by once-through use of groundwater pump and discharge; and (2) use of EPA's preferred alternative of recirculation would result in flow reduction in the Peace River. *See* Comment Letter at Section III, Subsection E and Section IV, Subsection G. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 61 | 3.3.2.3 | 65 *et seq.* | 3 *et seq.* | The contribution of the intermediate aquifer to streamflow at the proposed Ona, Wingate East and South Pasture Extension mines is negligible. The water levels in the Floridan aquifer are 60 to 70 feet lower and the water levels in the intermediate aquifer are typically 30 to 40 feet lower than the water table in the surficial aquifer. All groundwater outflow to riparian wetland systems at the locations of the four proposed mines (including DeSoto) is from the surficial aquifer system. Increases or decreases in the potentiometric surface of the Floridan aquifer will not have a significant effect on groundwater outflow to surface systems in the vicinity of the four proposed mines. However, an increase in the potentiometric surface resulting from cumulative reductions in withdrawals will increase surface runoff throughout the Peace River basin. *See* Comment Letter at Section III, Subsection E and at Section IV, Subsection E and Subsection G. |
| 62 | 3.3.2.3 | 67<br>68 | 34-35<br>1-18 | Bacchus is not a credible source that should be referenced in the DAEIS. |
| 63 | 3.3.2.4 | 69-70 | | We concur that the data demonstrates no reduction in discharge due to changes in hydraulic conductivities due to mining. Hydraulic conductivities in reclaimed lands can be targeted to achieve pre-mining discharge rates.<br>In addition, specific to recharge below CSAs, the water level in a clay settling area may be 4 to 13 feet below the surface of the clay. However, because the clay surface is typically greater than 4 to 13 feet above original grade, the groundwater table in the sedimented clay, as well as in the overburden soils beneath the sedimented clay, are above the pre-mining groundwater table, i.e., there is more downward recharge beneath a clay pond than beneath unmined areas. *See* Comment Letter at Section IV, Subsection G. |
| 64 | 3.3.2.5 | 70 | 15-18<br>Figure 3-28 | *See* Comment Letter at Section IV, Subsection B, Subsection E, #1, and Subsection G. The Administrative Record contains the actual period of NPDES record data (10 years) for CF for inclusion in the record.<br>Please correct the use of *CFI* to properly reflect CF- This is a nomenclature correction needed throughout the document. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 65 | 3.3.2.5 | 70<br>71 | Figure 3-28<br>6-17 | CF concurs. Its data supports this conclusion. *See* Comment Letter at Section III, Subsection E, and at Section IV, Subsection E, #1, and Subsection G.<br>The NPDES data for the South Pasture Mine document average annual discharges for the past eight years that are similar in magnitude to what would be expected at these locations prior to mining, i.e., the ditch and berm system does not capture all, or even a large percentage, of the streamflow contribution associated with the capture area. Although peak discharges during storm events are significantly less as a result of surface water capture during storm events, later releases of the captured water maintain average annual discharges near pre-mining discharges. 100% capture as used in AEIS is overly conservative. |
| 66 | 3.3.2.5 | 71 | 7-17 | *See* Comment Letter at Section III, Subsection E, and at Section IV, Subsection B, Subsection E, #1, and Subsection G. CF notes that its mining practices show CF's method to be effective at preventing adverse localized drawdown. *See* Attachment D for Final Orders and Recommended Orders. |
| 67 | 3.3.2.6 | 74<br>75<br>77 | 30-34<br>1-2<br>Figure 3-33 | We concur that CF piezometer data shows no adverse lowering of the surficial aquifer and that site-specific hydrologic data impacts potential for localized dewatering. CF's recharge ditch and berm systems are designed utilizing such site-specific data and modeling, which serves to prevent adverse dewatering. *See* Comment Letter at Section III, Subsection E, and at Section IV, Subsection E, #1, and Subsection G. |
| 68 | 3.3.2.7 | 77<br>77 *et seq.* | Figure 3-33<br>5 *et seq.*<br><br><br><br><br><br><br><br>12 | *See* Comment Letter at Section III, Subsection E, and at Section IV, Subsection E, #1, and Subsection G. Placing portions of an affected mine footprint within the ditch and berm system does not remove this portion of the mine from the contributing area of the watershed. It only prevents potentially-turbid direct surface runoff from entering the adjacent stream system. After clarification in the recirculation system, a significant fraction of the captured water can and will be released, either through NPDES-permitted outfalls or via injection into CF's ARRP. Furthermore, the ditch and berm system also serves as a groundwater recharge system maintaining the groundwater contribution to the adjacent stream system.<br>Mining also changes the water budget from the pre-mining condition in that ET losses will decrease on mined, but unreclaimed, land, thereby increasing the amount of water available for other uses, offset by the discharge of baseflow through the ditch and berm systems. (See Table 3-6 on page 3-79; CF Payne Creek).<br><br>"*CFI* South Pasture application should be "CF South Pasture Extension Application". |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 69 | ADD 3.3.2.8 | 80 | 1-11 | The AEIS and its administrative record would be strengthened by the addition of a conclusory sub-section that summarizes, compares, and contrasts: (1) the impacts that could potentially occur; (2) the impacts that occurred pre-regulation (circa 1970); and (3) the impacts that have been documented under the current regulatory and industry operational procedures scenario. The summary should address both surface water and groundwater. |
| 70 | 3.3.3.1 | 85 | 10-14 | It should be noted that WBIDs that receive/drain discharge from SP to SPE are not impaired. |
| 71 | 3.3.3.1 | 86 | 2 | Why is nitrogen a mining parameter (30-Mile Creek)? |
| 72 | 3.3.3.1 | 88<br>89 | 10-35<br>1-17 | We concur that the overwhelming majority of the data shows all basins affected by mining to be in compliance with water quality standards. CF monitoring data for SP likewise shows compliance. However, it should be noted that the two real problems with the Lewelling Report is that it is (1) based on a small number of sites and samples and (2) what "some" sites exhibit is inconsistent with the more apparent general pattern for some constituents. Lewelling Report: Of the constituents listed in the USGS study collected bimonthly samples for ortho-phosphorus (OP) and alkalinity on 4 reclaimed streams and 3 unmined streams with less than 16 samples for each site. Two of the bimonthly reclaimed sites only provided discharge on two occasions. Both were clay settling areas. Therefore, statistical analysis can only really be made for two reclaimed sites. Figure 62 of the USGS report does just that and shows that the median, upper interquartile range, and 1.5x interquartile range values of the two reclaimed sites with more than two samples were all lower than the respective concentration distribution for the three unmined sites for OP. Three of the four samples taken from the two CSA's exhibited values higher than the maxima found in the unmined basins. Therefore, although CH2's statement regarding OP is not false, it would be more true to state that; "Sometimes ditches draining CSA's exhibited higher concentrations of ortho-phosphorus than in unmined streams, while sites reclaimed with overburden or sand tailings typically had lower overall concentrations than the unmined streams." CF's stream reclamation will occur on sand tailings. Furthermore, an FDEP (2007) study (cited by CH2 in another section of the EIS) could also be cited here. "Furthermore, FDEP (2007) in a separate study found no statistically significant difference in total phosphorus concentrations between reclaimed and unmined streams." *See* Comment Letter at Section IV, Subsection H. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 73 | 3.3.3.1 | 90 | ADD 36→ | Summary sentence should be added and permit limits for mine NPDES permits should be listed, e.g., (1) technology-based numerical effluent limits; (2) water quality-based numerical effluent limits; (3) aquatic life criteria; and (4) TMDLs, if applicable. *See* Comment Letter at Section IV, Subsection H. |
| 74 | 3.3.3.2 | 93 | 7-11 | Suggest changing lines 7-11<br>From:<br>However, if these deliberations reach resolution prior to the completion of this AEIS, further consideration of the alternatives under AEIS review will need to address these new regulatory requirements, and even in advance of administrative resolution, some projections of likely new regulatory requirements and how they may affect future review of proposed new phosphate mining projects is warranted.<br>To:<br>When deliberations reach resolution and numeric nutrient criteria become effective for Florida, such criteria would need to be considered as part of site-specific regulatory review, particularly with respect to NPDES discharge permitting by FDEP, with oversight from EPA. The phosphate mining industry has been heavily involved during this rulemaking process, and is aware of the effects the new regulations may have on its operations and compliance. *See* Comment Letter at Section IV, Subsection H. |
| 75 | 3.3.3.2 | 100 | 9-15 | CF concurs and its own SP monitoring data reflects that groundwater meets groundwater standards at the property boundary and are thus not an issue of concern. The AEIS and its administrative record would be strengthened if the USGS analytical results for parameters of concern in the scoping process (e.g., selenium, cadmium, etc.) were specifically addressed. We recommend comparison of data in mined and unmined basins. (*See* attached Payne Creek report at Attachment H.) *See* Comment Letter at Section IV, Subsection H. |
| 76 | 3.3.3.2 | 101 | 6 | The AEIS should compare and contrast what could occur, as well as what has been documented as occurring through monitoring with respect to groundwater quality impacts. *See* Comment Letter at Section IV, Subsection H. |
| 77 | 3.3.4.2 | 105 | Figure 3-40 | Could contrast the stations where mining is occurring (e.g., Bowlegs, Horse [665], Whidden, and Payne Creeks = scores 48-65) against stations where mining is not occurring; all mining sites are healthy. Also, similar to the comments to page 3-80, a conclusory paragraph regarding the health of the macroinvertebrate community as documented by this chapter would strengthen and support Chapter 4. *See* Comment Letter at Section IV, Subsection H. |

<table>
<tr><th></th><th>SECTION</th><th>PAGE(S)</th><th>LINE(S)</th><th>COMMENTS</th></tr>
<tr><td>78</td><td>3.3.4.3</td><td>107</td><td>10</td><td>As the CHNEP has documented, Charlotte Harbor is in good condition, notwithstanding any historic mining or other anthropogenic impacts to the upstream watershed. A summary of that condition should be added here. See Comment Letter at Section IV, Subsection B and Subsection H.</td></tr>
<tr><td>79</td><td>3.3.5</td><td>107<br>108</td><td>11-34<br>1-15</td><td>See Comment Letter at Section IV, Subsection E, #1, Subsection F and Subsection K. CF disagrees with the blanket implicit assertion that mine projects would adversely affect wetlands and surface waters unless included in a no-mine area. While it is accurate to say these areas would be directly impacted by extraction, reclamation activities are required by law as part of any modern mine project. In many cases, the system to be mined is already heavily impacted and the proposed reclamation would restore its natural condition. See Reclamation Package at Attachment E.</td></tr>
<tr><td>80</td><td>3.3.6.2</td><td>121</td><td>1-4</td><td>We support this statement. This paragraph is an excellent example of how the AEIS should independently verify and draw conclusions from the literature in order to support the AEIS and permit RODs. The ground and surface water hydrology and quality teams should produce similar conclusions.<br>(See comments above on pages 3-80, 3-90, 3-101, and 3-107; similar summary paragraphs should be provided on those pages, for ease of referenced in Ch. 4). See Comment Letter at Section IV, Subsection F and Subsection K.</td></tr>
<tr><td>81</td><td>3.3.7.1</td><td>126</td><td>29-33</td><td>See Comment Letter at Section III, Subsection G and at Section IV, Subsection J. It is significant to note that Table 3-16 actually shows a wide disparity between the “mining” counties (i.e., Hillsborough, Polk, Hardee, and DeSoto) and the “coastal retirement” communities (i.e., Manatee, Sarasota, Charlotte, and Lee):
<table>
<tr><td></td><td>Mining Communities</td><td>Retirement Communities</td></tr>
<tr><td>People < 5 Yrs. Old</td><td>6.5 – 8.0%</td><td>3.5 - 5.7%</td></tr>
<tr><td>People < 18 Yrs. Old</td><td>22.5 – 27.7%</td><td>14.3 – 20.5%</td></tr>
<tr><td>People > 65 Yrs Old</td><td>11.8 – 18.0%</td><td>23.3 – 34.1%</td></tr>
<tr><td>Median Household Income</td><td>$36 – 49K</td><td>$45 – 50K</td></tr>
<tr><td>% Below Poverty</td><td>14.2 – 26.9%</td><td>10.5 – 12.8%</td></tr>
</table>
A related “environmental justice” comment is to what extent should citizens who live outside the CFPD (at a significantly higher standard of living) influence federal decision-making within the CFPD (where the economy is dependent on mining).</td></tr>
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| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 82 | 3.3.7.3 | 132 | 16 | Mine projects achieve environmental justice goals because the projects will benefit, and do not disproportionately impact, minority and low income populations. *See* Comment Letter at Section III, Subsection G and at Section IV, Subsection J. |
| 83 | 3.3.7.4 | 136 | 7-14 | The geospatial data also documents the four proposed mines will not be developed in populated areas, thereby lessening the potential for significant population exposure to noise, light, and dust.<br>Hardee County also has enacted noise, light and dust standards to ameliorate effects on adjacent populations. *See* Comment Letter at Section III, Subsection G and at Section IV, Subsection J. |
| 84 | 3.3.7.6 | 143 | 9-17 | To properly frame this issue, the AEIS should present statistics from the SWFMWD report referenced on page 3-141 to document that mining use is now only ~5% of the total. (Therefore, at most, the No-Action Alternative would reduce demand on the aquifer by 5%.); in reality, however, mining rates will not increase over current rates, so mining's 5% demand on the aquifer will be extended, not increased, and will slowly be reduced as mining is phased out. *See* Comment Letter at Section III, Subsection A and at Section IV, Subsection C and Subsection G. |
| 85 | 3.3.7.7 | 147 | 25-27 | These air emissions are regulated nationally by EPA by establishing emissions standards that engine manufacturers (e.g., Caterpillar®) must meet.<br>Hardee County also has dust and noise standards. *See* Comment Letter at Section IV, Subsection J. |
| 86 | 3.3.7.7 | 153<br>154 | 6-10<br>11-15 | These paragraphs are excellent examples of conclusory paragraphs that should be added to ground and surface water and hydrology sections. We recommend similar summaries be added throughout Chapters 3 and 4. *See* Comment Letter at Section II, Subsection A and Subsection C and Section IV, Subsection B. |
| 87 | 3.3.7.8 | 155 | 16-17 | We concur that reclaimed lands provide excellent opportunities for recreation and the creation of public and private recreational areas. In addition, Alafia River State Park, and Hillsborough County's Medard Park both support a variety of recreational activities. *See* Comment Letter at Section II, Subsection A Section III, Subsection H, and at Section IV, Subsection F and Subsection K. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 88 | 3.3.7.11 | 164<br>165 | 29-35<br>1-10 | Mining extension projects do not increase transportation burdens as the same number of vehicles and same infrastructure requirements and burdens will exist. Because of the historical development of the mining industry combined with the fact that no increases in production rates are projected, the existing highway and railroad network adjacent to the proposed mines has sufficient capacity, such that no demands on local or state governments will be required for transportation improvements. |

# CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES

**4.2 – Overview of Evaluation Methods**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 89 | 4.2.1<br><br><br><br><br><br>4.10 | 2<br>3<br><br><br><br><br>156 | 30<br>1-3<br><br><br><br><br>Table 4-55 | Note Typo<br>*See* Comment Letter at Section II, Subsection B and Subsection C and at Section IV, Subsection A, Subsection E, Subsection F, and Subsection K. The analysis is largely based on GIS layers such as the IWHRS, CLIP and FLUCCS. Updated and/or site-specific data and GIS layers should be used wherever possible in lieu of regional data that is necessarily less specific.<br>The CLIP datasets include large amounts of lands that are not subject to federal jurisdiction, *.e.,g.* palmetto prairies and pine flatwoods. Further, these datasets do not necessarily comport with the ecological value and condition of habitats on the South Pasture Mine Extension parcel. In lieu of on-site alternatives concepts that incorporate avoidance of Priority 1 and 2 areas (which are often upland areas), on-site alternatives should assess the conditional and functional value of the wetlands or other surface waters at issue, as assessed and field-verified pursuant to UMAM and other appropriate site-specific analytical tools. |
| 90 | 4.2.1 | 3 | 3 | Add this sentence to the end of this paragraph: *These databases provide information on listed species locations and habitat conservation priorities, and thus address the USFWS comments identified in Chapter 3.3.6.1 above.*<br>*See* Comment Letter at Section IV, Subsection F. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 91 | 4.2.1.2 | 5 *et seq.* | 10 *et seq.* | This section should point out that the IWHRS and CLIP approaches do not rely on any of the data or knowledge collected directly from the proposed sites through the planning and permit application development processes. Such data are thorough and multifaceted, representing things like ground-based land cover mapping, wetland functional assessments, and wildlife surveys.<br>*See also* Comment Letter at Section I, Section IV, Subsection A, Subsection E, Subsection F and Subsection K. |
| 92 | 4.2.2 | 9 | 2-3 | This sentence is inconsistent with page 3-58, lines 28 through 31. Add conclusion sentence here: *However the modeling and data demonstrate no significant effect on FAS or water supply, individually or cumulatively. See* p. 3-58, lines 28-31. *See* Comment Letter at Section IV, Subsection E and Subsection G. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 93 | 4.2.2.2 | 14 | 14-18 | CF concurs with this finding. *See* Comment Letter at Section IV, Subsection E and Subsection G. We provide additional information regarding this finding as follows:<br>Actual pumping rates at Florida phosphate mines in the past have been significantly less than the permitted rates for a variety of reasons. One of the most important reasons is the ability of many of the mines to use recycled water in the flotation cells. For many years, it was believed that flotation would not be as effective if water other than once-through Floridan water were used in the flotation cells. This was found to be incorrect. This is the main reason why withdrawals are so much less today than in the past. Reuse of this water has resulted in significantly less withdrawals.<br>Another important reason for smaller withdrawals than permitted is that the mining companies permit the withdrawals required during drought periods assuming no stored water is available at the end of the preceding year. The current requested quantities assume a 1-in-5 year drought. Withdrawals during normal or above-average rainfall years are significantly smaller than withdrawals during extended drought periods. Thus, the potential withdrawals used in the DAEIS represent the worst-case withdrawal scenario.<br>Mines do capture surface water to use as makeup in the recirculation system but the quantity is limited to the available storage. |
| 94 | 4.2.2.2 | 15 | 16-22 | *See* Comment Letter at Section IV, Subsection G. |
| 95 | 4.2.3 | 20 | 1-10 | Note that the water re-use and surface water capture water management techniques were originally prescribed by EPA in the 1978 AEIS. *See* Comment Letter at Section III, Subsection E and Section IV, Subsection G. |
| 96 | 4.2.3 | 21 | 23-26 | *See* Comment Letter at Section IV, Subsection G. |
| 97 | 4.2.3.1 | 23 | 8-15 | The DAEIS assumption that 100% of the stormwater on the actively mined areas is captured and incorporated into the mine recirculation system is overly conservative. Actual capture will be significantly less than 100%. *See* Comment Letter at Section III, Subsection E and Section IV, Subsection G. |

**4.3 – Ecological Resources**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 98 | 4.3.1 | 29 | 5 | Examples of upland habitats that are considered ecologically important to wildlife are provided in Section 3.3.6 (page 3-108, lines 17-28). Pasturelands and/or agricultural lands are not included. Mine projects necessarily include on-site reclamation, which can provide enhanced functions. Additionally, "avoidance" and "preservation" are not coequal terms. Preservation is part of CF's mitigation plan that would not be required to offset impacts if additional areas are avoided. *See* Comment Letter at Section III, Subsection C, Subsection D and Subsection H and at Section IV, Subsection A and Subsection K. |
| 99 | 4.3.1 | 29 | 11-14 | Properly acknowledges that the No Action Alternative would likely result in less habitat enhancement and preservation as well as more degradation from non-mining activities. *See* Comment Letter at Section II, Subsection B, at Section III, Subsection H, and at Section IV, Subsection E and Subsection G. |
| 100 | 4.3.2 | 30<br>31 | Table 4-6<br>Tables 4-7, 4-8, 4-9 | *See* Comment Letter at Section III, Subsection B, Subsection C, and Subsection D and at Section IV, Subsection A, Subsection E, and Subsection F. |
| 101 | 4.3.2.1 | 35 | 1-3 | Discussed what proportion of the site has high IWHRS and CLIP scores, but does not relate the locations of those areas to proposed No Mine areas on CF SPE. Additionally, these areas include a substantial amount of uplands. Clean Water Act S. 404 permitting is required for discharges of dredged fill material in wetlands and surface waters, not uplands. *See* Comment Letter at Section I, Section III, Subsection D and at Section IV, Subsection A and Subsection E. |
| 102 | 4.3.2.1 | 35 | 10-12 | The DAEIS statements here concerning indirect impacts and potential downstream impacts are fairly general. We suggest this discussion be more detailed. The related resource subject in Ch. 3 should be incorporated here. *See* Comment Letter at Section II, Subsection C and at Section IV, Subsection B, Subsection E, Subsection F, Subsection G and Subsection K regarding wildlife habitat protection, enhancement, and restoration provided as part of CF's mine plan. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 103 | 4.3.2.4 | 41 *et seq.* | 4 *et seq.* | In its Corps Application for the South Pasture Extension, CF has already thoroughly considered the practicability of minimizing impacts to "high value" wetlands in its Preferred Alternative by its avoidance of most high quality wetlands using UMAM where practicable. CLIP constitutes a lesser reliable but redundant application and in fact encompasses a significant amount of upland areas, not wetlands. Site specific available data should be used for each of the applicant's alternative areas rather than less reliable and often incorrect NHD and NWI datasets. *See* Comment Letter at Section III, Subsection B, Subsection C, and Subsection D and at Section IV, Subsection A, Subsection E, and Subsection F. |
| 104 | 4.3.4 | 1 | Figure 4-18<br>Figure 4-19 | The Hardee County Mining Overlay- Figures would be improved if the County boundary is shown. |
| 105 | 4.3.4.17 | 63 | 11 | A summary paragraph regarding wildlife impacts under each reasonable project alternative should be added to the FAEIS. *See* Comment Letter at Section III, Subsection C and at Section IV, Subsection A regarding CF comments about the appropriateness of use of regional vs. site-specific metrics and datasets. |

**4.4 – Groundwater Resources**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 106 | 4.4.1 | 63 | 32-34 | CF agrees that if no further mining were approved in the CFPD, groundwater allocations for mining would be distributed to others. That has historically occurred. *See* Comment Letter at Section IV, Subsection G. |
| 107 | 4.4.2.4 | 80 | 3-7 | CF concurs that potential FAS impact will likely be much lower than permitted, given the conservative DAEIS assumption that all amounts under all WUPs would be utilized throughout both mining and reclamation, although water use will significantly decrease during reclamation-only periods. *See* Comment Letter at Section IV, Subsection E and Subsection G. |
| 108 | 4.4.4 | 82 | 17-19 | *See* Comment Letter at Section III, Subsection D and at Section IV, Subsection D. None of these sites are reasonable alternative locations for the SP mine extension projects. |
| 109 | 4.5.1<br>4.5.2 | 83<br>85 | Figure 4-32<br>Figure 4-34 | *See* Comment Letter at Section IV, Subsection G. |

**4.5 – Surface Water Resources**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 110 | 4.5.2.4 | 93 | 8-23 | CF concurs that impacts on streamflows will be minimal. USGS Horse Creek study (Lewelling, R. R. 1997. Hydrologic and Water Quality Conditions in the Horse Creek Basin, October 1992 – February 1995. U.S. Geological Survey Water-Resources Investigations Report 97-4077. Tallahassee, Florida)<br>- site is in headwaters of the overall system with the lowest runoff coefficients of any subbasin in the study. Further, the study shows the Horse Creek basin provides net recharge north of County Road 72 and gains of groundwater levels south to the USGS gauge used to calibrate this model. This statement correctly qualifies the runoff assessment performed and should be expanded to include Horse Creek. *See* Comment Letter at Section IV, Subsection B and Subsection G. |
| 111 | 4.5.3.4 | 103 | 8 | Similar to the comment on page 4-63, the surface water flow discussion just stops. We recommend addition of conclusion/summary of comparisons of the reasonable project alternatives for SPE. *See* Section IV, Subsection B and Subsection G. |

**4.6 – Water Quality**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 112 | 4.6.1 | 103 | 19-28 | This paragraph is too vague. CF recommends adding references to studies that demonstrate the conclusion at lines 27-28. |
| 113 | 4.6.1 | 103 | 29-35 | CF notes that the development document for the technology-based numerical effluent limitations contained in the NPDES permits analyzed the pollutants addressed here and concluded that pH and suspended solids controls were the only limitations needed to ensure phosphorus, fluoride, and metals water quality standards would be met at the point of discharge. *See* CF's NPDES monitoring data. |
| 114 | 4.6.2.1 | 105 | 22-23 | CF's SP Mine NPDES permit requires periodic monitoring for other parameters (e.g., the annual tailing sample, the five-year complete parameter analysis requirements, and bioassays) to demonstrate that monitoring is conducted to demonstrate conformance with all water quality standards. |
| 115 | 4.6.2.1 | 106 | 3-5 | The DAEIS here discusses the 5-year averages (as reflected in Tables 4-19 through 4-26). CF concurs with the conclusion, but suggests addressing the ranges and variability in the data. The industry's compliance record for its NPDES permits supports the assertion that water quality is acceptable. *See* Comment Letter at Section IV, Subsection H and Attachment H. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 116 | 4.6.2.1<br>4.12.3.5 | 106<br>108<br>239 | 10-20<br>1-6<br>Table 4-20 | CF has included an analysis of the Payne Creek basin to demonstrate that mining does not cause adverse water quality impacts.<br>Table 4-20, Outfall "*Fort Green 005*" appears to be a typo. The appropriate outfall name for CF is "North Pasture Outfall 003".<br>Also the table states Total Nitrogen as 1.6, while CF's data reflects 1.2. |
| 117 | 4.6.2.1 | 110 | Table 4-25 | Clarify nomenclature within the table (Background vs upstream/Outfall 005 vs Station Name; See note above, as this is presumably North Pasture Outfall 003.<br>See comment above regarding total Nitrogen data in Table 4-20. |
| 118 | 4.6.2.1 | 112 | 1-2 | Note that CF's mine plan includes aquatic biological monitoring requirements. See Attachment D (CF SPE ERP). |
| 119 | 4.6.2.2 | 119 | Table 4-28 | Should differentiate between Primary and Secondary standards |
| 120 | 4.6.2.2 | 120 | 6-7<br><br><br><br>6-12 | It should be noted that the pH excursions are indicative of natural conditions in flatwoods soils and that monitoring data presented in Table 4-19 demonstrate mine process water is not the cause of low pH values in groundwater. *See* Comment Letter at Section IV, Subsection H and Attachment H.<br>Should also note that pH is a Secondary Standard. |
| 121 | 4.6.3.3 | 122 | 28 | "The applicants have indicated that clay settling areas in the future are likely to have smaller footprints …" We recommend clarification to say "smaller overall footprint within mines", as individual CSAs are not smaller. |
| 122 | 4.6.5 | 123 | 19-24 | This sentence should also be included in Chapter 3. |
| 123 | 4.6.5 | 124 | 16 | We recommend adding a sentence per reasonable alternative summarizing past, current and future potential impacts (of the reasonable alternatives) to water quality based on Chapter 3 and the Administrative Record. |

**4.7 – Economic Resources**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 124 | 4.7 | 124 *et seq.* | 17 *et seq.* | *See* Comment Letter at Section III, Subsection F and Subsection G and at Section IV, Subsection I and Subsection J. |
| 125 | 4.7.1 | 124 | 23-25 | As the modeling of the alternatives demonstrates, all four applications essentially result in continued production at existing rates. Therefore, under the no-action alternative, the economics of the CFPD counties would suffer. *See* Comment Letter at Section III, Subsection F and Subsection G and at Section IV, Subsection I and Subsection J. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 126 | 4.7.3.4 | 138 | 12-14 | *See* Comment Letter at Section III, Subsection B, Subsection C, and Subsection D, and at Section IV, Subsection D. |

**4.8 – Cultural and Historic Resources**

| | SECTION | PAGE(S) | LINE(S) | DAEIS STATEMENT/TOPIC DISPOSITION |
|---|---|---|---|---|
| 127 | 4.8 | 139 *et seq.* | 1 *et seq.* | Provide cross-reference to Section 3.3.7.9. We concur with the Department of State that Section 3.3.7.9 well-documents the cultural resources data. We also agree with the Department that site-specific cultural resource surveys should be used to supplement that information re specific sites. CF has already conducted such a survey for its Preferred Alternative and obtained clearance. |

**4.9 – Environmental Justice Review**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 128 | 4.9 | 150 *et seq.*<br>151<br>152<br>153 | 7 *et seq.*<br>Table 4-53<br>Table 4-54<br>Figure 4-57 | The directives of the Executive Order relative to Environmental Justice have been satisfied. *See* Comment Letter at Section III, Subsection G and at Section IV, Subsection J |

**4.10 – Onsite Alternatives**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 129 | 4.10<br><br><br><br><br><br><br><br>See specifically as to SPE:<br>4.10.4<br>4.10.4.1<br>4.10.4.2 | 154 et seq.<br>156<br>157<br>158<br><br>159<br><br>160<br><br><br><br><br>163<br>163<br>163 | 1 et seq.<br>Table 4-55<br>Table 4-56<br>Tables 4-57, 4-58<br><br>Tables 4-59, 4-60<br><br>Table 4-61<br><br><br><br><br>1-25<br>10<br>12 | *See* Comment Letter at Section II, Subsection B, at Section III, Subsection D and at Section IV, Subsection A, Subsection E, and Subsection F.<br>Ecological Resources: Assessment of Buffers Distance from specified avoidance areas.<br>There appears to be no hydrologic, ecologic, or water quality basis for establishing buffers of set distances that would uniformly apply in all cases. CF's recharge ditch and berm system, as proposed in CF's Preferred Alternative, modeled and designed based on detailed in-situ hydrogeologic conditions, have proven to be effective in protecting avoided areas from adverse impacts, yet would not result in the sacrifice of mineral reserves that these buffers would entail.<br>On-site Alternatives: In general this discussion includes quantification of the lost reserves per each on-site alternative (tons of rock). The practicality of each is not mentioned with respect to the resulting limitations on infrastructure and clay disposal capacity or ability to maneuver draglines or other equipment – All of the buffers impose significant geometric limitation on the location, configuration, and capacity of clay settling areas such that the remaining reserves would possibly also not be mineable due to the lack of adequate waste disposal capacity.<br>Perennial Streams: The DAEIS indicates a preference for site-specific supplemental data from monitoring records, agency reports, etc. (page 4-1, line 8) Therefore, as clearly addressed within the SPE application materials, no stream within the SPE should be considered perennial. |
| 130 | 4.10 | 154 | 22-24 | The statement is misleading and implies that a 500-foot upland buffer around all wetlands and all streams is required in Hillsborough County. This is incorrect and this statement should be clarified to reflect the actual language (provided in italics below).<br>*Land alteration activity which destroys, reduces, impairs or otherwise adversely impacts a wetland within 500 feet of the Hillsborough River, Alafia River, or Little Manatee River shall be prohibited, regardless of any other regulatory agency authorization, unless an exception has been granted. The 500 feet shall be measured from the jurisdictional line established by the EPC for wetlands and natural waterbodies. See* Section 8.02.08.13.A of the Hillsborough County Land Development Code. *See also* Comment Letter at Section III, Subsection D and at Section IV, Subsection E. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 131 | 4.10 | 157 | Table 4-56 | *See* Comment Letter at Section II, Subsection B, at Section III, Subsection D, and at Section IV, Subsection E.<br>The suggested buffers are not scientifically, hydrologically, or ecologically justified. In addition, site-specific stream delineation on South Pasture Extension showed there are no perennial streams on the parcel. Therefore, this avoidance alternative does not apply to CF. |
| 132 | 4.10 | 158 | Table 4-57 | *See* Comment Letter at Section II, Subsection B, at Section III, Subsection D, and at Section IV, Subsection E. |
| 133 | 4.10 | 158 | 7-13 | CF No-Mine Plan is already based on avoidance of high quality streams and wetlands to the extent practicable. Thus, we support this avoidance/minimization approach. However, the alternative buffers are not necessary and unduly restrict reserve recovery. *See above. See* Comment Letter at Section II, Subsection B, at Section III, Subsection D, and at Section IV, Subsection E and Subsection F. |
| 134 | 4.10 | 158 | Table 4-58 | *See* Comment Letter Section II, Subsection B, at Section III, Subsection D, and at Section IV, Subsection E. |
| 135 | 4.10 | 159 | Table 4-59 | *See* Comment Letter at Section III, Subsection B, Subsection C, and Subsection D, and at Section IV, Subsection E and Subsection F. Consideration of the value of jurisdictional wetlands is an appropriate and environmentally sound basis for comparison of on-site alternatives, to the extent it is based on site-specific data and information. However, as noted in the Comment Letter, incorporation of mandatory setback distances from high-value wetlands does not have a sound hydrologic, ecologic or water quality protection basis. Incorporation of some along with a recharge ditch and berm system, specifically designed based on site-specific data and modeling results, achieves an equivalent level of hydrologic and ecologic protection of the avoided resource, without the same substantially adverse impacts of reserve recovery. *See also* Attachment J. |

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| 136 | 4.10 | 159<br>160 | Table 4-60<br>Table 4-61 | *See* Comment Letter at Section III, Subsection B, Subsection C, and Subsection D, and at Section IV, Subsection A, Subsection E and Subsection F. Consideration of the presence or absence of streams is an appropriate and environmentally sound basis for comparison of on-site alternatives, to the extent it is based on site-specific data and information. However, as noted above, incorporation of mandatory setback distances from streams does not have a sound hydrologic, ecologic or water quality protection basis. All buffers should be established on a site-specific basis based on the resource in question. Incorporation of some along with a recharge ditch and berm system, specifically designed based on site-specific data, achieves an equivalent level of hydrologic and ecologic protection of the avoided resource, without the same substantially adverse impacts to reserve recovery. Further, as noted above, the South Pasture Extension parcel does not contain perennial streams. Therefore, the mapping for the Extension parcel relative to this alternative appears to be in error. |

**4.11 – Issues Which Are Not Significant or Which Have Been Covered by Prior Environmental Review**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 137 | 4.11 | 163 | 29-33 | Adherence to water use permit conditions will provide adequate protection against direct or indirect hydrologic impacts. CF concurs that terms and conditions in its WUP and adopted Environmental Management Plan (also incorporated into the ERP for SPE) will protect against direct or indirect adverse hydrologic impacts to the surficial aquifer, streamflow, and wetland hydroperiods. Preserved wetland monitoring data at SP demonstrates this, as the DAEIS recognizes. *See* Comment Letter at Section IV, Subsection F and Subsection G and Attachment J. |
| 138 | 4.11.2 | 164 | 23-28 | In addition to segregating muck and xeric topsoils, native habitat, wetlands and streams at SPE will be constructed on a thick layer of sand tailings, topped with muck, native topsoil or other growing medium to re-establish water table aquifer functions.<br>Industry has demonstrated an ability of reclamation to mimic hydrologic profile of unmined lands/create specific desired soil profiles, good growing medium. CF monitoring and modeling data demonstrate this. *See* Comment Letter at Section IV, Subsection F and Subsection and Attachment E. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 139 | 4.11.3 | 164 | 29-33 | We concur that restoration of appropriate topography is accomplished via current methods of reclamation. SPE will generally be returned to approximate pre-mining contours, and existing elevations along the avoided corridor. This is CF's current practice for riparian corridors and habitat reclamation on SP and it has proven effective. The same practices will be employed on SPE. *See* Comment Letter at Section IV, Subsection E, Subsection F, and Subsection K and Attachment E. |
| 140 | 4.11.5 | 165 | 21-25 | We concur that air pollution, notably dust/fugitive emissions, can be adequately controlled by utilized dust suppression techniques currently employed at SP, such as truck washing, road watering, or installation of berms and vegetative buffers. EPA's estimated efficiency of dust suppression methods is 75-90%.<br>Hardee County also has dust control requirements. *See* Comment Letter at Section III, Subsection G and at Section IV, Subsection J. |
| 141 | 4.11.7 | 166 | 1-6 | We concur that equivalent floodplain storage is adequately addressed by DEP rules.<br>• During mining, flood storage capacity is increased by CSAs;<br>• Discharge records and capture analysis demonstrate no increase in peak flows;<br>• ERP no-rise requirement on post-reclamation lands;<br>• CF during mining analysis and FMR demonstrated this.<br>• Therefore, no increase in flooding projected.<br>*See* Comment Letter at Section IV, Subsection G. |
| 142 | 4.11.8 | 166 | 7-29 | We concur that DEP and local reclamation requirements for mines are adequate to ensure an economic and/or environmentally beneficial post-reclamation land use. Lands have been reclaimed as native habitat, agricultural lands, and commercially developable properties, among other uses. Mine plans will achieve state and local land conservation goals along riparian corridors. *See* Comment Letter at Section IV, Subsection F and Subsection K and Attachment E. |
| 143 | 4.11.10 | 167 | 11 | SPE will rely upon the same infrastructure that has supported the South Pasture Mine since 1995, and because no increase in production rates is proposed, no expansion of existing infrastructure would be needed for the SPE. *See* CF South Pasture Extension Corps Application at Attachment D. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 144 | 4.11.12.1 | 168 | 16 | We concur that potential environmental and human health impacts of phosphogypsum stack systems has already been fully addressed in permitting of those stacks. *See* Comment Letter at Section IV, Subsection C.<br>Add sentence: *These are located at fertilizer plants that are not in counties where mining will occur.* It should also be noted that CF has capacity at its existing phosphogypsum stack through 2030 and environmental impacts of the stacks have been addressed in separate permitting.<br>*See* Attachment E (Financial Assurances Report). |

**4.12 – Cumulative Impacts**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 145 | 4.12 | 169 *et seq.* | 20 *et seq.* | *See* Comment Letter at Section IV, Subsection A, Subsection F, Subsection G, Subsection H and Subsection J. |
| 146 | 4.12.1.2 | 170<br>171 | 18-32<br>1-16 | Detailed 404(b)(1) and public interest analysis must be conducted based on site-specific data at the application level, incorporated into the Administrative Record for the AEIS, and included in the FAEIS. *See* Comment Letter at Section III, Subsection B and at Section IV, Subsection A. |
| 147 | 4.12.1.2 | 170<br>171 | 29-32<br>1-2 | We concur that regional cumulative benefits to wildlife will occur as a result of implementation of the proposed projects. Suggestions elsewhere of impacts to wildlife should be conformed. *See* Comment Letter at Section II, Subsection A and at Section IV, Subsection D and Subsection K and Attachment E. |
| 148 | 4.12.1.3 | 171 *et seq.* | 17 *et seq.* | CF agrees that the 2010 data sets represent the cumulative effects of all prior development in the subject watersheds. *See* Comment Letter at Section IV, Subsection G. However, existing capture was not included. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 149 | 4.12.1.3 | 172 | 20-22 | We agree that phosphate mining impacts must be considered in light of prior impacts in the watershed of concern to properly assess cumulative impacts. The DAEIS analysis appropriately does this; however, by assessing all future mining against a baseline that includes all prior impacts so that true cumulative impacts can be assessed. It shows, however, that the proposed mine projects will not cause further adverse impacts and, in fact, in some instances, will help remediate past impacts. For example, the industry is required to provide at least 1.1 acre/linear foot wetland/stream replacement, but the creation is designed not to restore to the "status quo," but to pre-human alternation condition where possible. Thus, reclamation is being planned and implemented in such a manner as to "undo" past anthropogenic effects. In addition, these lands are, along with no-mine areas, typically placed under preservation, a level of protection that did not exist in the pre-mining landscape. *See* Comment Letter at Section IV, Subsection K. |
| 150 | 4.12.1.4 | 176 | 19-36 | This discussion should pull forward the conclusions from the preceding individual analyses (e.g., Sections 4.3 through 4.10), rather than re-introduce all of the potential, individual and cumulative effects that could result. |
| 151 | 4.12.1.5 | 178 *et seq.* | 14 *et seq.* | *See* Comment Letter at Section IV, Subsection F and Subsection K. |
| 152 | 4.12.1.5 | 178 | 28-30<br><br>35 | Section 4.4 documents no net increase in Floridan aquifer withdrawals will be permitted by SWFWMD. So, while the surface of the potentiometric surface may increase or decrease locally to reflect re-allocation of the resource, but an overall decrease in water levels will not result. CF monitoring data, as recognized by DAEIS, shows no significant adverse Floridan or surficial water table lowering. This should be recognized here. *See* Comment Letter at Section III, Subsection E, and at Section IV, Subsection B and Subsection G.<br><br>*"variety (of) past and ongoing human activities"* |
| 153 | 4.12.1.5 | 178 | 30-33 | As noted above, the best option for minimizing potential effects is not creating arbitrary "non-development" zones, but stepwise (1) protecting the highest quality intact systems where practicable; (2) installing ditch and berm around them to protect against dewatering secondary impacts; (3) implementing reclamation that will create broad habitat nodes/corridors. This is a site-specific examination. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection E, Subsection F and Subsection K. |
| 154 | 4.12.2.2 | 192 | 23-27 | *See* Comment Letter at Section IV, Subsection F regarding increase in wetland acres and streams. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
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| 155 | 4.12.2.2 | 194 | 7-16 | This paragraph should be inserted throughout the AEIS whenever the historical Floridan aquifer drawdown and associated impacts are discussed. *See* Comment Letter at Section IV, Subsection G. |
| 156 | 4.12.2.2 | 196 | 14-21 | An assessment of the aquifer recovery under the SWUCA rules should be added. *See* Comment Letter at Section IV, Subsection G. |
| 157 | 4.12.2.2 | 196 | Table 4-68 | Mining now uses less water than golf courses; since the 1978 AEIS, mining use has decreased by 90%, from 309 MGD to 31 MGD. *See* Comment Letter at Section IV, Subsection G. |
| 158 | 4.12.2.2 | 196<br>197 | 22-27<br>1-25 | *See* Comment Letter at Section IV, Subsection G. |
| 159 | 4.12.2.2 | 197 | 26, *et seq.* | *See* Comment Letter at Section IV, Subsection H and Attachment H. |
| 160 | 4.12.3.2 | 202 | 14-26 | On pages 4-189 and 4-190, the impacts to aquatic resources were quantified, yet here no effort is made to quantify the mitigation completed by mining companies. *See* Comment Letter at Section IV, Subsection F and Subsection K and Attachment E. |
| 161 | 4.12.3.2 | 202 *et seq.* | 13 *et seq.* | The AEIS and administrative record would be strengthened by independently analyzing the post-reclamation land cover maps in the applications and providing statistics, tables, and maps to support these statements. These should be compared to on-site alternatives to assess overall ecological benefits. As discussed, this should be based on site-specific data. |
| 162 | 4.12.3.2 | 204 | 6-16 | Properly acknowledges the contribution of CSAs and other "artificial habitats" to wildlife habitat. *See* Comment Letter at Section IV, Subsection K and Attachment E. |
| 163 | 4.12.3.2 | 204 | 17-19 | Properly acknowledges that the stream losses will be temporary and that the ultimate result will be an increase in streams, which mitigates impact identified in the PRCIS. |
| 164 | 4.12.3.2 | 204 | 20-33 | Properly acknowledges the increase in upland wildlife habitat and points out the reduction in fragmentation that will occur as a result of reclamation/mitigation. However, this section could be strengthened to point out the permanent protection offered to these areas under the proposed conservation easements. *See* Comment Letter at Section IV, Subsection F and Subsection K and Attachment E. |
| 165 | 4.12.3.2 | 205 | 16 | Implies there is cumulative impact on local populations of wildlife. Reclamation/mitigation provides overall cumulative positive benefits to wildlife. *See* Section 4.12.1.2. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection F and Subsection K and Attachment E. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 166 | 4.12.3.2 | 205 | 20-28 | It should be noted that these positive effects (lack of significant cumulative impacts, reduction in fragmentation, etc.) are a direct result of the permittee-responsible mitigation. Off-site mitigation (mitigation banks, etc.) may weaken on-site efforts and, therefore lead to unacceptable cumulative impacts. This discussion of mitigation hierarchy needs to reflect regional ecological benefits of on-site reclamation. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection E, Subsection F, and Subsection K and Attachment E. |
| 167 | 4.12.3.2 | 206 | 1-15 | On page 205, the historical loss of habitat was considered substantial and significant and lines 1 and 2 on page 206 reach the same conclusion. Then come eight sentences about various habitat protection and mitigation programs, followed by the conclusion that impacts are expected to be insignificant. We suggest additional analysis and detail be provided based on site-specific information. *See* Comment Letter at Section III, Subsection C and Section IV, Subsection A. |
| 168 | 4.12.3.2 | 206 | 13-15 | Reasonably concludes that the cumulative impacts on aquatic resources and upland habitats are expected to be insignificant. We suggest additional detail be added to strengthen. *See* Comment Letter at Section IV, Subsection F, Subsection G and Subsection K and Attachments E and H. |
| 169 | 4.12.3.3 | 206 *et seq.* | 16 *et seq.* | A statement should be added to the end of the first paragraph (which starts on p. 206) that quantifies the reductions in groundwater withdrawals by phosphate mining described earlier in the document in Chapter 3. *See* Comment Letter at Section III, Subsection E and at Section IV, Subsection G. |
| 170 | 4.12.3.3 | 207 | 2-5 | The statistics presented on page 4-196 (Table 4-68) should be repeated here. |
| 171 | 4.12.3.3 | 228<br>230<br>231 | 2-5<br>2-23<br>1-4 | We concur that a positive change in head will occur in the aquifer as compared to 2010. CF groundwater modeling used to support the WUP supports this as to SPE effects. Net improvements will result. *See* Comment Letter at Section III, Subsection E and at Section IV, Subsection G.<br>We concur that aquifer levels will *increase* between now and 2060. |
| 172 | 4.12.3.4 | 231 *et seq.* | 5 *et seq.* | CF integrated modeling demonstrates post-reclamation hydrologic improvements at SPE. . *See* Comment Letter at Section III, Subsection E and at Section IV, Subsection G and Subsection K. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 173 | 4.12.3.4 | 232 | 20-28 | It is overly conservative to assume 100% capture. It is not reasonable to assume that all of the rainfall will be held on-site. The purpose of the recharge system is to maintain groundwater outflow at natural, background levels, which provides baseflow to streams. NPDES discharges can also augment streamflows. *See* Comment Letter at Section IV, Subsection G. |
| 174 | 4.12.3.4 | 232 | 3-18 | This section could be strengthened by quantifying the flows provided by the respective recharge systems and NPDES discharge outfalls. *See* Comment Letter at Section IV, Subsection G and Attachment J. |
| 175 | 4.12.3.4 | 237<br>238 | 30-34<br>1-9 | We agree that impacts on surface water hydrology due to mining are small to barely perceptible and no net cumulative impacts will occur. *See* Comment Letter at Section III, Subsection E and at Section IV, Subsection G. |
| 176 | 4.12.3.4 | 238 | 3-9 | This section could be strengthened by quantifying the flows provided by the respective recharge systems and NPDES. *See* Comment Letter at Section IV, Subsection G and Attachment J. |
| 177 | 4.12.3.5 | 238 | 33-36 | We agree mining will not cause cumulative measurable downstream effects; any effects are within the seasonal variability of the systems and are not individually or cumulatively significant. *See* Comment Letter at Section III, Subsection E and at Section IV, Subsection G. |
| 178 | 4.12.3.5 | 239 | 7-19 | *See* Comment Letter at Section IV, Subsection H and Attachment H. |
| 179 | 4.12.3.5 | 239 | 14-19 | *See* Comment Letter at Section IV, Subsection H and Attachment H. |
| 180 | 4.12.3.5 | 239 | 20-26 | There are no impaired segments draining to/discharging from SPE. |
| 181 | 4.12.3.5 | 240 | 11-23 | We recommend this paragraph be strengthened by reference to other portions of Chapters 3 and 4 relative to water resources. *See* Comment Letter at Section IV, Subsection H and Attachment H. |
| 182 | 4.12.3.6 | 244 | 10-27 | We support the findings relative to the importance of the industry to jobs and the regional economy. *See* Comment Letter at Section III, Subsection F and at Section IV, Subsection I and Attachment G. |

# CHAPTER 5 – MITIGATION

### 5.2 – Regulatory Overview

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 183 | 5.2 | 2 | 3-6 | "Creation" of wetlands on mined land is restoration, not establishment, because we are not trying to convert uplands into wetlands, but rather are replacing the former, pre-mining aquatic resources. *See* Comment Letter at Section IV, Subsection F and Subsection K. |

### 5.3 – Mitigation Goals and Concepts

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 184 | 5.3.1 | 2 | 29-33 | CF has taken a watershed-based approach to achieve greater habitat functionality and connectivity. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection K. Avoidance of all wetlands/streams and buffering those, often with pasture, would undermine that approach. |
| 185 | 5.3.2 | 3 | 3-4 | Add the use of additional specific materials beyond tailings, muck, and topsoil. For example, additions such as the clay blanket application we used to create a perched wetland in the southeast corner of DB-5. *See* Comment Letter at Section IV, Subsection K. |
| 186 | 5.3.5 | 4 | 4-10 | Recharge ditch and berm structural BMPs are left in place until mitigation sites, along with their adjoining upland sub-basins, are planted and trending toward success, protecting downstream water quality while continuing to provide recharge. *See* Comment Letter at Section III, Subsection D and at Section IV, Subsection E and Subsection K and Attachment E. |
| 187 | 5.3.7 | 5 *et seq.* | 14 *et seq.* | CF concurs with the statements on this page. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection A, Subsection F, and Subsection K.<br>Because of predictive integrated modeling and new technology, mitigation hydrology is more consistent. We can provide literature to support this assertion. *See* Attachment E. |
| 188 | 5.3.8 | 6 | 18-22 | CSAs often develop into wetlands near the downstream control structures and that these wetlands do provide benefits to the watershed in terms of hydrology, water quality, and wildlife habitat. Large areas that perform wetland functions exist on virtually all CSAs. *See* Comment Letter at Section IV, Subsection G. |

**5.4 – Evolution of the Technology – How Mitigation has Changed Over Time**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 189 | 5.4 | 6 *et seq.* | 23 *et seq.* | Wetlands mitigation is a relatively young science, with the earliest projects being constructed in the mid-1970s. Reclamation technology represents the cutting edge of wetlands mitigation technology. *See* Comment Letter at Section IV, Subsection F and Subsection K and Attachment E. |
| 190 | 5.4.1 | 8 | 7 | Financial assurance would be held until the created wetland achieves success per state rules. Hardee County also requires a reclamation bond. *See* Comment Letter at Section IV, Subsection K and Attachment E. |
| 191 | 5.4.2 | 8 *et seq.* | 24 *et seq.* | Stream Restoration: All stream construction occurs within areas severed from the downstream system by the ditch and berm systems and other BMPs so as to prevent turbidity/sedimentation/habitat smothering until flows in the constructed channels are stable and meet water quality standards. This is a substantial benefit over mitigation banks, which do not offer stream credits. *See* Comment Letter at Section IV, Subsection H and Subsection K and Attachments E and D (CF Stream Restoration Plan). |

**5.5 – Mitigation Options**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 192 | 5.5.1 | 11 | 14-25 | Proper acknowledgement of the mitigation efforts of the phosphate industry. However, this section lacks a conclusive statement regarding the similarities between mitigation banks and the permittee-responsible mitigation conducted in the phosphate industry. The type of mitigation provided by the industry meets the intent of the Mitigation Rule. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection K and Attachments E and D (CF Stream Restoration Plan). |
| 193 | 5.5.2.1 | 12 | 2-13 | On-site reclamation is required, and the mines generally preserve high-quality intact habitat which is adjacent to reclaimed uplands/wetlands. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection F and Subsection K and Attachment E. On-site, permittee responsible mitigation at phosphate mines is large-scale and watershed-based. It helps restore lost connectivity and habitat corridors and provides for permanent preservation of avoided and restored areas. It is thus the functional equivalent of a mitigation bank. |
| 194 | 5.5.2.3 | 15 *et seq.* | 11 *et seq.* | The benefits typically provided by mitigation banks, as explained in the 2008 Mitigation Rule, are met by permittee – responsible, on-site mitigation here. *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection K and Attachment E. |

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 195 | 5.5.2.3<br><br>5.5.3 | 16<br>17<br>18 | 30-34<br>1-7<br>2-3 | *See* Comment Letter at Section IV, Subsection F and Subsection K. |

**5.6 – Mitigation Plans for Currently Proposed Mines**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 196 | 5.6 | 19<br>20 | Tables 5-1, 5-2<br>Tables 5-3, 5-4 | *See* Comment Letter at Section IV, Subsection E and Subsection K. |

**5.7 – Reclamation**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 197 | 5.7 | 21 | 11-13 | *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection F and Subsection K and Attachment E. |

**5.8 – Environmental Resource Permitting**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 198 | 5.8 | 21<br>22 | 26-34<br>1-22 | The discussion of the ERP program should be expanded to discuss the similarities to the 404 permits, the differences, and where the 404 permits will rely upon the state (*e.g.,* 401 certification, bonding, and conservation easement management). CF has provided a complete copy of its ERP for the SPE to demonstrate the thoroughness and detail of the state permit. |

**5.9 – Conservation of Wildlife and Listed Species**

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 199 | 5.9 | 22 *et seq.* | 23 *et seq.* | *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection K and Attachment E. |
| 200 | 5.9 | 22 | 29-36 | *See* Comment Letter at Section III, Subsection H and at Section IV, Subsection K and Attachment E. |

# CHAPTER 7 – REFERENCES

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 201 | | 1 *et seq.* | 1 *et seq.* | Description:<br>Data and analysis that are in the Administrative Record or are here attached would supplement or correct some of the data in the DAEIS, e.g., current version of CF's DA Application for SPE; approved SPE ERP; CF Reclamation Demonstration Package<br>Comment:<br>Please incorporate the attachments at Attachments D-J to CF's Comment Letter into the Chapter 7 References. *See* Comment Letter at III.D. |

# APPENDICES

### APPENDIX C – ECOLOGICAL CHARACTERIZATIONS

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 202 | | | | To provide a better comparison with existing site-specific data, CF suggests the Corps include in the FAEIS current and post-reclamation maps of FLUCCS, UMAM or WRAP scores for the four proposed sites for comparison against the regional maps and data for other sites. They could be presented as side-by-side comparisons. This would allow an easy visual comparison of the IWHRS and CLIP data with ground-level data from the four mines. *See* Comment Letter at Section III, Subsection C and at Section IV, Subsection A. |

### APPENDIX D – GROUNDWATER MODELING

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 203 | | | | *See* Comment Letter at Section IV, Subsection G. |

### APPENDIX E – SURFACE WATER ANALYSIS

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 204 | | 23 | | *See* Comment Letter at Section IV, Subsection G. |
| 205 | | 34 | Table 5 | *See* Comment Letter at Section IV, Subsection G. |

### APPENDIX F – ECONOMIC ANALYSIS

| | SECTION | PAGE(S) | LINE(S) | COMMENTS |
|---|---|---|---|---|
| 206 | | | | *See* Comment Letter at Section IV, Subsection J. |

# CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

**EXECUTIVE SUMMARY**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| ES.3 | 3 | 9 | The AEIS should include examples of the 'other stakeholder groups' as mentioned throughout the entire AEIS document. | Add/identify stakeholder groups in EIS. |
| ES.5.2 | 8 | 10 | The acreage provided is inconsistent with the remainder of the document. | Review entire document for consistency: SPE wetland and stream impact is 1,261.6 acres and stream impact is 32,161 lf. |
| ES.5.2 | 8 | 9 | Different wetland acres are used in different places and need to be clarified as to whether they are total wetlands, impacted wetlands, other, and the source of the data. CF application information should be used (or, when approved by the Corps, the wetland jurisdictional determination); P 8: 1,423 acres; P 15: 1226; P. 19: . 1769 | Review entire document for consistency using CF application information. CF wetland and stream impact acreage per the application is 1,261.6 ac. |
| Table ES-1 | 12 | | Switch columns for Alternative Numbers 4 and 5 (typo) | Correct typo in Table ES-1 – Wingate is Alternative 4 and South Pasture Extension is Alternative 5.<br><br>Review entire document for nomenclature consistency. |
| Table ES-2 | 15 | | Alternative 5 – Land Area to be Disturbed Discrepancy with number in tables on pp. 18-20 (6,418 v. 6,214 acres). | Review entire document for consistency: SPE disturbance is 6,418.4 acres (total acres mined and disturbed). |
| Tables | 18-19 | | Table ES-6/ES-7 shows perennial streams within 1500 feet of mineable acres for CFI.<br>This is mentioned again in Chapter 4.10.4 page 163 line 20. | There are no perennial streams on SPE. Remove reference to SPE perennial streams throughout document. |

# CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

## CHAPTER 1 – PROJECT PURPOSE AND NEED

### 1.1 – Introduction

### 1.2 – Project Purpose and Need

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Table 1-3 | 12 | | Indicates mining on SPE will be from 2018 – 2035 – application and mine plan specify mining from 2020 – 2033. Correct references are included on Page 19, Line 18. | CF SPE ACOE Application Environmental Narrative – Section 3 – Actual mining on SPE is scheduled to begin on the SPE in 2020 and continue through 2033; some mining on SP will occur through 2035. Table should be clarified accordingly. |

### 1.3 – Proposed Action

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 1.3 | 19 | 14 | 3.5 Mt/year is historical average, with 3.5-3.6 Mt/year projected for the future life of the Hardee Phosphate Complex. See CF SPE ACOE Application Environmental Narrative—Section 2.2-Project Need. | Change sentence to: "The Hardee Phosphate Complex production capacity rate is approximately 3.5 Mt per year. |
| 1.3 | 19 | 19 | "1,769 acres of wetlands" – this figure should be clarified that this figure represents total wetlands/surface waters on site, not impacted acres | Figure should be revised per CF SPE ACOE Application Environmental Narrative (See Attachment D) Review entire document for consistency. See comment to Table 1-5, below. |
| Table 1-5 | 19 | | Cited numbers are total acres of wetlands and stream linear feet on the SPE, not impact acres. Current mine plan includes 1,261.6 acres of wetland impacts and 32,161 linear feet of stream impacts. | Per CF SPE ACOE Application Environmental Narrative, proposed wetland impact is 1,261.6 acres and stream impacts is 32,161 linear feet. Review entire document for consistency.<br>The DAEIS should also be clarified to distinguish between wetlands/streams proposed for impact compared to total wetlands/streams. |

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Figure 1-7 | 23 | | The figure does not include CF SPE No Mine lines and implies that all wetlands on SPE will be potentially impacted by mining. | Add the Avoidance Area per CF's Preferred Alternative. Suggest similar changes be made for all proposed projects. See Figure EN-11 from the CF SPE ACOE Application Environmental Narrative. |

**CHAPTER 2 – ALTERNATIVES**

**2.2 – Range of Alternatives Considered**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Table 2.3 | 7 | | Referenced SPE impacts are for 600-level FLUCFCS only; does not include 500-level FLUCFCS. Footnote "a" indicates that acreages are for both wetlands and streams. | Change footnote to eliminate stream reference or change acreage (1,242.3) to include FLUCFCS 500 and 600. See CF SPE ACOE Application Environmental Narrative – Table EN-11 |
| 2.2.4.4 And Table 2.7 | 29 31-32 | 10-14 Table | It should be noted that CF's North Pasture and South Pasture were originally considered as a single project as reflected in the original DRI for the property. Inclusion of 1,600 acre North Pasture misleadingly lowers the overall average mine size (which could, correspondingly, explain some of the inaccurate assumptions on pp. 32-33, noted below). | Average new mine figure used in DAEIS should not include North Pasture as standalone mine. Table 2.7 should be footnoted to indicate that North Pasture and South Pasture were originally permitted as a single project at the local level. *See* CF SPE ACOE Application Environmental Narrative (in Attachment D) for discussion of timeline and acreages. |
| 2.2.4.4 | 29 | 18-21 | The construction cost for the South Pasture Mine of $74.8 million is not correct. The approximate total cost in 2004 was oapproximately $135 million, according to CF's 2010 10K report. See Attachment E (appended to CF's Financial Assurances documentation) | In 1994, the cost to construct the Hardee Phosphate Complex was $135 Million (exclusive of dragline costs). Source: Attachment E to Comments, CF 10K Report at p. 8 (2010) |

## CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 2.2.4.4 | 33 | 11 | "3.5 million tons" – 3.3 and 3.7 million tons used elsewhere | 3.5 million tons is correct. Review document for consistency See Attachmend D, CF SPE ACOE Application Environmental Narrative – Section 2.2 - Project Need – South Pasture production is 3.5 million tons per year, on average. |
| 2.4.4 | 32-3 | 6-13, 10-27 | This section contains numerous errors. The DAEIS should rely on the expertise of the companies for interpretation of the mine production data, and a site-specific analysis is required. It appears as though the data reviewed for the DAEIS was not interpreted correctly. For example<br><br>P. 32: the number of draglines & parcel size are not the only consideration. Many site-specific factors go into the analysis of minimum viable mine size, production rate, and estimated recoverable reserves<br>.P. 33: CF is not proposing a new plant. Additionally, the proposed production rate is 3.5 – 3.6 Mt/year not 3.7.<br>P. 33: 2.7 million tons per year is not "reasonably within range" of CF's existing production rate. CF needs a nominal annual average of 3.5 Mt/year as stated in its application. Also, 2.7 Mt/year is 77% of that figure, not 85%.<br>P. 32-33: The source of the data for the 85% figure referenced on p. 32 & 33 is unclear.<br>P. 33: The data source for the sentence at lines 12-13 on page 33 is unclear.<br>P. 33: 9,000 tons per acre is an overly high estimate of tons per acre for CF, as recognized by the DAEIS on page 33 at lines 7-9, which undermines the conclusions at lines 10-19, at least as they pertain to CF Industries. | • Corps should address minimum mine size on a project-specific basis based on site-specific data in the applications<br>• The statements on lines 3-13, page 32 are inaccurate.<br>• At p. 32, line 9—DAEIS should identify the technical or industry data source of the phrase "of at least an 85 percent capacity."<br>• The approximate of 9,000 tons per acre referenced on lines 5-7 is not accurate as to CF Industries. It should be replaced with site-specific information obtained from the companies during application review. Delete the word "reasonably" in the parenthetical at line 11 on p. 33 and replace it with "(this more than 20% below the current and nominal average production rate of 3.5 million tons per year mined by for the existing CF Industries Hardee County plant (3.5 million tons per year)"<br>• Delete the sentence at lines 12-13 or provide the data source for that information. Production with:<br>• Change sentence on p. 33, lines 16-17 to: "However, this is 23% less than the average annual production rate for the existing CF Industries Hardee County plant (3.5 million tons per year), and…"<br>• |

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 2.2.4.8 | 63 | 12 | Typo – change "producing" to "produce" | Change sentence to: "The second effect is that the areas removed may produce pockets of…" |

**CHAPTER 3 – AFFECTED ENVIRONMENT**

**3.1 – Phosphate Mining within the CFPD**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Figure 3-1 | 3 | | Figure 3-1 identifies the product of beneficiation as "phosphate ore"…should be "wet phosphate rock" to avoid confusion. | Change "Phosphate Ore" to "Wet Phosphate Rock" |
| 3.1.2 | 3 | 4-5 | This discussion should include the removal of "interburden (the soils located between layers of mineable ore)". | |
| 3.1.5 | 10 | 8 | See comment at 2.2.4.4, above. This is an inaccurate statement of the cost of the plant. | In 1994, the cost to construct the Hardee Phosphate Complex was $135 Million (exclusive of dragline costs).<br>Source: Attachment E to Comments, CF 10K Report at p. 8 (2010) |

**3.3 – Key Natural and Human Resources of Concern**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Figure 3-17 | 42 | | The figure does not show all the USGS gauges in the CFPD. Suggest changing title to "Selected USGS Gauges. . ." | Change title of Figure to "Selected USGS Gauges. . ." |
| Table 8-6 | 52 | | Table 8-6 is missing several "<" and ">" signs in the third column. | Update table as needed |

## CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 3.3.2.2 | 60 | 4-14 | A 1- to 3-ft thick layer of overburden is no longer used to cover the sand-filled mine cuts. This prior practice is no longer used by either CF or Mosaic. The current practice is to mix a small quantity of overburden into the sand tailings to improve the moisture holding capacity of the surficial soil. The small amount of overburden used does not adversely affect rainfall infiltration. | Update paragraph to reflect current technology/reclamation methodology. See Attachment D, CF ACOE Application, Environmental Narrative, at Reclamation Plan & Wildlife Habitat Management Plan |
| 3.3.2.2 | 60 | 4-14 | Overburden has never been used to cap clay ponds. The uncapped clay is a highly productive soil, having both high moisture and nutrient holding capacity. With proper drainage, it is an excellent soil for either improved pasture or row crops. It also has a relatively high infiltration rate due to desiccation cracking throughout the upper several feet. Annual surface runoff from reclaimed clay areas is not much different than from typical Florida flatwoods soils | Update paragraph to reflect current technology/reclamation methodology. See Attachment D, CF ACOE Application, Environmental Narrative, at Reclamation Plan & Wildlife Habitat Management Plan |
| 3.3.2.3 | 65 | 22 | Text refers to Hammett as "he" but Kathy is a "she" | Change sentence to: "Interestingly, she did not find similar…" |
| 3.3.2.3 | 67 | 15-33 | Consider superimposing the CFPD on Figure 3-14. Such a map would demonstrate that Charlie Creek is located mostly east of the CFPD and little, if any, phosphate mining is likely to occur there. Figure 2-36 also supports change. | Superimpose CFPD on Figure 3-14. |

## CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 3.3.5 | 108 | 16 | The DAEIS should be corrected to reflect actual vegetative cover rather than SWFWMD land cover maps, wherein the majority of reclaimed lands are coded FLUCFCS 165 = reclaimed land. If this deficiency is corrected, the picture of "lost" wetlands and uplands habitat is largely mitigated. One option would be to recommend use of the USGS or USDA "national land cover" dataset (2005). | AEIS Figures 3-41 through 3-43 should be compared against these national land cover datasets and revised accordingly to reflect current actual vegetative land cover. |
| 3.3.6 | 108 | 17-25 | Some listed species (like caracaras and burrowing owls) primarily occupy agricultural lands, but the DAEIS doesn't recognize this in the habitat cover types it lists. | Add reference to FLUCFCS Code 200 |
| 3.3.6.1 | 115 | 36 | Add a new paragraph to the end of this paragraph: "The ESA also requires an assessment of the potential effects on species proposed for listing (50 CFR §402.12). | Add any species proposed for listing that have been actually observed in the project areas & alternative sites, to the extent known. |
| Table 3-15 | 116 | | Although the USFWS consultation area for the bluetail mole skink and sand skink includes all of Polk County, there are no records of either species in the CFPD boundary, as both are biogeographically restricted to the Lake Wales Ridge. They do not need to be included in Table 3-15. | Delete reference to bluetail mole skink and sand skink in Table 3-15. |
| 3.3.6.1 | 117 | 19-37 | The short-tailed snake, least tern, limpkin, roseate spoonbill and Suwannee cooter are other state-listed species known to occur within the CFPD. | Include short-tailed snake (ST), least tern (ST), limpkin (SSC), roseate spoonbill (SSC) and Suwannee cooter (SSC) in description of state-listed species in the CFPD. |

## CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 3.3.6.2 | 118 | 22 | Mushinsky, McCoy and Kluson (1996) is not in the Literature Cited in Section 7. | Add reference to Section 7 - Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, *Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Uplands in Central Florida,* Florida Institute of Phosphate Research Publication No. 03 – 100 – 129. |
| 3.3.6.2 | 120 | 6 | Citation in Section 7 for Durbin et al. (2008) is incorrect and incomplete in the Literature Cited in Section 7. | Correct citation in Section 7 - Durbin, D.J, S. Gonzales, H. Mushinsky, E. McCoy, R. Moore, N. Halstead and K. Robbins, 2008, *Wildlife Habitat and Wildlife utilization of Phosphate-mined Lands*, Florida Institute of Phosphate Research Publication No. 03 – 147 – 230. |
| 3.3.6.3 | 121 | 28 | There is *little* connectivity, not *no*. | Change sentence to : "between these patches of good habitat results in little connectivity to support…" |
| 3.3.6.3 | 122 | 6 | Duplicate title for the figure on page 124. | Delete line 6. |
| 3.3.7.2 | 130 | 9-20 | Population projections should be updated | Update population projections using current census data. |
| 3.3.7.5 | 139 | 19-20 | This sentence is inconsistent with Chapter 1, page 8 through 11. | Information used in this section should be made consistent with Chapter 1 information. |
| 3.3.7.7 | 150 | 4 | NORM is ***naturally*** occurring, not normally occurring. | Change sentence to: "what are called Naturally Occurring Radioactive Materials (NORM)". |

## CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES

### 4.1 – Introduction

### 4.2 – Overview of Evaluation Methods

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 4.2.1.1 | 3 | 17 and 31 | FFWCC, 2009 is not in Chapter 7 (References). | Add IWHRS citation to Section 7. |
| 4.2.1.1 | 4 | 13 and 31 | FNAI, et al., 2001 is not in Chapter 7 (References). | Add CLIP citation to Section 7. |
| 4.2.2.1 | 10 | 27-36<br>Table 4-4 | The supporting table associated with this text does not appear to be correct with respect to CF's current permit. *See* comments to Tables 4-3 and 4-4, below | Tables 4-3 and 4-4 should show reduced water usage for South Pasture and SPE after 2025 and 2033 based on transition to primarily reclamation use. *See* CF's Existing SP Permit and CF's SPE ACOE Application. *See also* page 1-19, Line 18. |
| Table 4-3 | 11 | 1-2 | CF needs to correct the volumes and durations on this table and note the shift from production to reclamation on South Pasture Mine beginning in 2025. | Update table to reflect correct the volumes and durations on this table and note the South Pasture mine shift from production to reclamation in 2025. *See* CF's Existing SP Permit and CF's SPE ACOE Application. |
| 4.2.2.1 | 10-11 | 28-29 | As shown on Table 1-3, CF's currently permitted reserves on South Pasture will be mined by 2025, so their water use should crop to 0.5 MGD through 2030 to support plant demolition (when SPE is mined out) and reclamation. | Update table to reflect change from production to reclamation. *See* CF's Existing SP Permit and CF's SPE ACOE Application. |
| 4.2.2.1 | 13 | 1-15 | Table 4-4 is wrong. In addition to the overlap between Four Corners and South Fort Meade with Ona and DeSoto, CF mines out in 2033 according to itsir application, with reclamation complete in approximately 10 years. *See* Page 1-19, line 18. | Table needs to be corrected to match SP and SPE mine out and reclamation schedules in CF's Existing SP Permit and CF's SPE ACOE Application. *See also* p. 1-19, Line 18. |

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Table 4-4 | 13 | | Same comment. Note shift from production to reclamation beginning in 2033. | Update table to reflect change from production to reclamation per CF SPE ACOE Application. See also Page 1-19, Line 18 (correct information contained there). |
| 4.2.3.1 | 22 | 25-34 | The AEIS also presents mine and release schedules in the economic analyses as well as references to time frames elsewhere…they are inconsistent with CF's application and each other. Recommend reconciliation to one standard timeline for each mine. | Review document for internal consistency in figures used. |
| 4.2.4 | 24 | 1-2 | Same comment as page 4-22 concerning schedules and timelines. | Review document for internal consistency in figures used. |
| 4.2.4.1 | 25 | 19-22 | Same comment as page 4-22 concerning schedules and timing. | Review document for internal consistency in figures used. |
| 4.2.4.2 | 26 | 25 | Same comment as page 4-22 concerning schedules and timing. | Review document for internal consistency in figures used. |

**4.3 – Ecological Resources**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Table 4-5 | 29 | | Conversion formula from short to metric tons should be added since different documents use different units of measurement. | Add conversion formula as a footnote. |
| Table 4-6 | 30 | | Wetland acreage affected here is listed as 1226 ac, but in Section 4.3.2.4 (Ch4 Pg41 Ln6) as 1262 ac. Consistency with acreages needs to be revisited. See comment in ES/8/10. | CF SPE ACOE Application Environmental Narrative - SPE includes 1,261.6 acres of wetland impacts.<br><br>Correct typo in Table 4-6. Review document for consistency. |

## CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Table 4-8 | 31 | | Total Wetlands on SPE is listed here as 2780 ac but in individual columns 1555 ac forested + 979 ac herbaceous + 123 ac other; these 3 figures do not add up to 2780, but 2657 ac (difference of 123 acres). What are the remaining 123 ac? This difference is consistent among all mines within the table – a footnote should be added to explain. | Switching acreages between site specific (Table 4-6) and SWFWMD land use data (Table 4-8) is confusing to the reader. As noted above, SWFWMD land use data needs to be updated. Site-specific acreages should be used for proposed project sites.<br><br>Need to explain differences with a footnote or revise with site-specific data. |
| Table 4-8 | 31 | | The AEIS mentions 96% bay swamp acreage preserved but Table 4-8 shows 0 acres of bay swamps? If this table provides only acreages within the area to be mined, that should be stated. | As stated above, the combined use of site-specific data and SWFWMD land-use data is confusing to the reader. As noted above, SWFWMD land use data needs to be updated. Site-specific acreages should be used for proposed project sites.<br><br>Include a footnote detailing the data and the resulting acreage discrepancies or use site-specific, applicant-generated acreages. |
| 4.3.2.4 | 41 | | There are no proposed protections for Troublesome Creek | Change sentence to: "Nearly all of the intact natural stream segments associated with Brushy and Lettis Creeks are proposed for protection…" |
| Figure 4-12 | 42 | | No-Mine Line should be added pre/post reclamation in comparison to these areas. | Add No-Mine limits to map and include in acreage calculation. |

**4.4 – Groundwater Resources**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 4.4.2.4 | 79 | 14-16 | These values appear to be consistent to the CF WUP but inconsistent with Tables 4-3 and 4-4. | Tables 4-3 and 4-4 should be reviewed for consistency with this page. |

**4.5 – Surface Water Resources**

| SECTION | PAGE(S) | LINE(S) | COMMENT | DISPOSITION |
|---|---|---|---|---|
| 4.5.2.4 | 93 | 11-12 | Land clearing in 2018, mining in 2020 (as of the date of the original projections). CF reports a cost of $135 million to build the South Pasture plant (annual 10-K report, page 8). This does not include draglines or the reserves purchase. | Change sentence to: Mining into this extension is proposed to begin in 2020. Revise Hardee Phosphate Complex cost per comment above. |
| 4.5.3.2 | 100 | | An average annual rainfall of 50 in/year is at the low end of the range for the 30-year average rainfalls that have occurred during the past 100 years. | Entire range should be included. |

**4.6 – Water Quality**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 4.6.1 | 103 | 29-35 | This paragraph should be in the subsequent section. No need to address what phosphate mining involves in the No Action sections. | Delete this paragraph & move to subsequent section. No need to address what phosphate mining involves in the No Action sections. |
| Table 4-20 | 108 | | Table heading says it includes inactive CF mines, but it does not. | Rename table to: "Table 4-20. Phosphate Mine Discharge Mean Water Quality Values for Selected Inactive Phosphate Mine NPDES Outfalls |
| 4.6.2.1 | 112 | 15-16 | Text refers to the "nearest phosphate mine outfall" but you have to read to the bottom of the paragraph to know what mine it is, and it still doesn't name the outfall (Fort Green 003). | Revise sentence to: "The upstream station (HCSW1) is located just under 8 miles downstream of the nearest phosphate mine outfall, Fort Green 003." |

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 4.6.2.1 | 112 | 16 | Should include the same FDEP SOP reference as in 4/115/20. | Change sentence to : "Monitoring of macroinvertebrates is conducted in accordance with FDEP's standard operating procedure DEP-SOP-001/01 FS 7420 Stream Condition Index (D-Frame Dipnet) Sampling." |

**4.7 – Economic Resources**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Table 4-32 | 127 | 21 | The Table inaccurately presents a favorable economic base case of no new mines for Hardee. In fact, the current economy, with mining, generates the values shown in years 1-10. The contraction in the Hardee County economy of the Hardee "base case" can accurately be calculated by subtracting the years 41-50 from years 1-10 (1,251,400,000 – 59,500,000 = 1,191,900,000 or $119.19 million/year). | Table should be revised accordingly. |
| | | | | |
| 4.7.2.4 | 135 | 14 | SPE job creation looks low, even when netting out Ag employment. If CF employs 187 directly, then their analysis of indirect and induced employment results in a net loss of 11 jobs. | The SPE job creation numbers should be revised. *See* Attached Economics Package |

**4.10 – Onsite Alternatives**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Tables 4-56, 4-57, 4-60 4-61 | 157-158 | | What is data source for perennial stream mapping? There are no perennial streams on SPE. | There are no perennial streams on SPE. Remove references and discussion to perennial streams relative to SPE. |

**4.11 – Issues Which Are Not Significant or Which Have Been Covered by Prior Environmental Review**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 4.11.9 | 167 | 5 | Typo – previously rather than preciously. | Change sentence to: "in an environment of previously flat agricultural and…" |

**4.12 – Cumulative Impacts**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Figure 4-58 | 173 | | Correct/clarify CF operations – extractive vs. reclamation. | Change title or add footnote indicating timeline encompasses mining and reclamation. |
| Tables 4-62 to 4-63 | 180-183 | | Tables are labeled as though they reflect "Unmined Lands" but they each contain acreages of "Extractive" land cover. | Table 4-62 and 4-63: Delete row/acreages for "extractive" to be consistent with Table title. |
| 4.12.1.5 | 181 | 14-17 | Narrative is inaccurate. | This needs to be revised in light of the foregoing comment; the error occurs because of reliance on the SWFWMD FLUCFCS GIS data that codes mined land as either 161-strip mines or 165-reclaimed land. |
| 4.12.1.2 | 187 | 34 | Active phosphate mining (FLUCFCS Code 161) accounts for only 5 percent of the Peace River basin and reclaimed land occupies another 5 percent. According to NRCS (2003), mining accounted for only 2 percent of the Peace River basins. | Change sentence to: "Phosphate mining and reclaimed land each account for about 5 percent of the land use." |
| 4.12.2.2 | 189 | 29 | The bullets are indicative of all development, not just mining. | Change sentence to: "According to FDEP's and SWFWMD's PRCIS, published in 2007, historical human impacts to the aquatic ecosystem that also include phosphate mining are:" |

<table>
<tr><th>SECTION</th><th>PAGE(S)</th><th>LINE(S)</th><th>COMMENTS</th><th>DISPOSITION</th></tr>
<tr><td>4.12.2.2</td><td>189</td><td>34</td><td>This acreage is due to inconsistencies by SWFWMD contractors when mapping land use using FLUCFCS. Essentially, significant acreages were mapped as stream and lake swamps (i.e., FLUCFCS 615) in the 1972 USGS data and refined by SWFWMD to represents 1979, then as upland forests in 1999 (possibly due to drought conditions), and then as stream and lake swamps in 2009. Table 4-66 on page 4-192 reflects the shift back to FLUCFCS 615 in 2009, thereby resulting in a net increase in wetlands acreage in the Peace River basin of 59, 040 acres between 1999 and 2009.</td><td>The tables and narrative should be corrected to increased acreage and reason for the increase.</td></tr>
<tr><td>4.12.2.2</td><td>189</td><td>34</td><td>These acreage losses were updated by FDEP BMMR in 2008 for mined lands. The number decreased to 26,019 acres due to effective reclamation.<table><tr><th>SubBasin</th><th>PRCIS Report - Acres</th></tr><tr><td>Peace at Bartow</td><td>290.5</td></tr><tr><td>Peace at Zolfo Springs</td><td>2,415.1</td></tr><tr><td>Payne Creek</td><td>1,455.7</td></tr><tr><td>Horse Creek</td><td>533.0</td></tr><tr><td>TOTAL</td><td>4,694.3</td></tr></table></td><td>Correct the acreages with the updated BMMR data</td></tr>
<tr><td>4.12.2.2</td><td>190</td><td>20-28</td><td>It is unclear whose mining and reclamation schedules were used to develop this figure, or which one of the three they developed.</td><td>Clarify data source and correct using applicant-provided information as appropriate.</td></tr>
</table>

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 4.12.2.2 | 190-191 | | Figure 4-61 is inconsistent with Figure 15 in Appendix E. | Review Figure 4-61 and Figure 15-Appendix A for consistency. |
| Figure 4-62 | 200 | | This figure needs to be corrected with the post-reclamation land cover for the areas mapped as extractive. | Update figure to reflect reclamation land cover. |
| 4.12.3.1 | 201 | 17-26 | This paragraph is inconsistent with the land use projections presented in Appendix E, Figure 15. | Update text/Figure 15-Appendix E for consistency. |
| 4.12.3.2 | 202 | 16 | Narrative is inaccurate | "All three activities historically removed or converted natural areas…" |
| 4.12.3.2 | 202 | 34 | WRAP – it is UMAM now. | Change WRAP reference to UMAM. |
| 4.12.3.2 | 203 | 32 | Kale (1992) not in Chapter 7 (References). | Add reference in Chapter 7. |
| 4.12.3.2 | 205 | 27-28 | American Wildlands 2005 is not in Chapter 7 (References) | Add reference in Chapter 7. |
| 4.12.3.3 | 209 | 28 | By 2045, SP will not be "active;" it will be in reclamation. | Change sentence to: "In 2045, the only active mines are Ona and Wingate. |

**CHAPTER 5 – MITIGATION**

**5.9 – Conservation of Wildlife and Listed Species**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 5.9 | 23 | 11-12 | Revise to more accurately state: "The phosphate industry also develops a Wildlife and Habitat Management Plan for each individual mine, which…". | Change sentence to: "The phosphate industry also develops a Wildlife and Habitat Management Plan for each individual mine, which…". |
| 5.9 | 24 | 9-10 | As stated for Section 3, the sand skink and blue-tailed mole skink do not exist in the CFPD. They are restricted to the Lake Wales Ridge. | Delete reference to the sand skink and blue-tailed mole skink. |
| 5.9 | 24 | 11 | The correct scientific name for Florida golden aster is *Chrysopsis floridana.* | Correct the scientific name of Florida golden aster (*Chrysopsis floridana).* |

**6.13 – Bald and Golden Eagle Protection Act of 1940, as amended**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| 6.13 | 8 | 6-8 | Take of bald eagles is authorized by 50 CFR § 22.26, 22.27 and 22.28, not just 22.26. | Change sentence to: "..USFWS established regulations (50 CFR § 22.26, 22.27 and 22.28) creating a permit program…" |

**CHAPTER 7 – REFERENCES**

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| | 6 | 7 | Proper citation is: Durbin, D.J, S. Gonzales, H. Mushinsky, E. McCoy, R. Moore, N. Halstead and K. Robbins, 2008, *Wildlife Habitat and Wildlife utilization of Phosphate-mined Lands*, Florida Institute of Phosphate Research Publication No. 03 – 147 – 230. | Correct citation: Durbin, D.J, S. Gonzales, H. Mushinsky, E. McCoy, R. Moore, N. Halstead and K. Robbins, 2008, *Wildlife Habitat and Wildlife utilization of Phosphate-mined Lands*, Florida Institute of Phosphate Research Publication No. 03 – 147 – 230. |
| | 16 | 9 | Add two missing citations after this line:<br>• Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, *Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Uplands in Central Florida,* Florida Institute of Phosphate Research Publication No. 03 – 100 – 129.<br>• Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, *Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Flatlands in Central Florida,* Florida Institute of Phosphate Research Publication No. 03 – 115 – 180. | Add two missing citations:<br>Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, *Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Uplands in Central Florida,* Florida Institute of Phosphate Research Publication No. 03 – 100 – 129.<br><br>Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, *Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Flatlands in Central Florida,* Florida Institute of Phosphate Research Publication No. 03 – 115 – 180. |

# CF TECHNICAL CORRECTIONS TABLE – DRAFT AEIS

## APPENDIX A – SITE AERIAL PHOTOGRAPHS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| | A5-1 to A5-4 | | The orange shading on these maps appears to exclude much of the stream corridor and floodplain areas contributing to the Peace River Greenway. The source and accuracy of the PRGI data is questionable. | Verify data accurately represents stream corridors and floodplains. |

## APPENDIX B – WATER QUALITY EVALUATIONS

| SECTION | PAGE(S) | LINE(S) | COMMENTS | DISPOSITION |
|---|---|---|---|---|
| Tables 6-9 | 23-24 | | Why are the values provided in the "Outfall" column not the same values shown in Table 4 on pages 13 and 14 for the respective mines? They both purport to be 2005-2010 means, but almost every respective pair of values is different. | Review reported values for consistency. |

# Applicant Comment Letter
# Mosaic

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Submission number 557
(Attachments Available)

**Via Hand Delivery**

July 31, 2012

Army Corps of Engineers
Draft AEIS Comments
USACE – Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, Florida 33610

Dear Sir or Madam:

Mosaic Fertilizer, LLC (Mosaic) submits these comments on the Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District (AEIS) issued for public comment on May 22, 2012. Mosaic is the applicant for certain Corps of Engineers (Corps) permits that are being addressed in the AEIS. Mosaic commends the Corps for the comprehensive work that has gone into the draft AEIS.

As the Corps made clear, this AEIS will provide information to support compliance with the National Environmental Policy Act (NEPA) for certain pending applications under Section 404 of the Clean Water Act, including Mosaic's applications for the Ona and Desoto mines, and the extension of the Wingate mine (referred to as Wingate East).

> The over-arching goal of this AEIS is to inform agencies, other stakeholders, and the public of the impacts of and alternatives to the four similar permit applications for phosphate mines. The AEIS is to support regulatory decisions to be made by the USACE and other agencies regarding the four specific proposed mine projects. A secondary function is to inform USACE regulatory decisions regarding future phosphate mining permit applications. AEIS, Section 1.4.

The AEIS provides information based on sound science on the cumulative impacts of phosphate mining in the Central Florida Phosphate District. This NEPA document provides information pertinent to its forthcoming regulatory decisions.

We appreciate the fact that the Corps has established and kept to a schedule for the AEIS, including release of the draft document. The comprehensive nature of the draft AEIS provides a sound foundation for the Corps to keep to its published schedule for release of the final AEIS in December.

Enclosed with this letter are technical comments designed to be helpful to the final AEIS. Mosaic believes that these technical corrections will improve, but do not fundamentally change, the draft AEIS. If you have any questions about any of the enclosed information, please feel free to contact me.

Sincerely,

Deedra Allen

Deedra Allen

**MOSAIC FERTILIZER, LLC**

**Comments on the**

***DRAFT AREAWIDE ENVIRONMENTAL IMPACT STATEMENT ON PHOSPHATE MINING IN THE CENTRAL FLORIDA PHOSPHATE DISTRICT* (MAY 2012)**

**submitted to the**

**U.S. ARMY CORPS OF ENGINEERS,**
**JACKSONVILLE DISTRICT**

**July 31, 2012**

## INTRODUCTION

Mosaic Fertilizer, LLC, ("Mosaic") submits these comments on the Draft Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District (AEIS) issued for public comment on May 22, 2012. Mosaic is the applicant for certain U.S. Army Corps of Engineers ("Corps") permits that are being addressed in the AEIS.

To facilitate the Corps' review and consideration of these comments, Mosaic's detailed comments and suggestions are provided below in a table format that notes the Chapter, Section, page and line(s) for each comment. Each comment has been given a Comment Number, and cross references are included to identify other areas of the DAEIS to which the comment may be applicable. The comments are categorized as follows: *Technical correction* (102 comments); *Suggested clarification* (100); *Additional/updated information* (44); *Typographical error* (20); and *Correction to reference/citation* (14). All suggested new or revised text is in **bold** font. Where it may be helpful, suggested edits have been <u>underlined</u> to draw the reviewers' attention to the relevant revised portion of the existing text. The comments are organized by the Chapter or Appendix of the DAEIS to which the comment relates.

Following the detailed comments are seven attachments. Attachments A through D provide additional substantive information on Surface Hydrology, Stream Buffers, Offsite Alternatives, and Economics. Attachment E provides the list of sources cited by Mosaic in these comments. For those sources that can be found online, a link is included with the citation. All other sources can be found on the CD that accompanies these comments. Attachment F contains tables displaying total mine, wetland, and stream information (pre- and post-mining acres and linear feet) for the three proposed Mosaic mines.

The entire response table in Word format is also contained on the CD.

# DETAILED COMMENTS ON THE DAEIS – MOSAIC FERTILIZER, LLC

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
|---|---|---|---|---|---|---|
| **EXECUTIVE SUMMARY** | | | | | | |
| **Section ES.5.2** | | | | | | |
| E:1 | ES-3 | 29-31 | "The effects of phosphate mining on groundwater quality and levels, including potential cumulative effects of mining on regional aquifers, especially associated with use of the Floridan aquifer for industrial water supply." | "The effects of phosphate mining on groundwater quality and levels, including potential cumulative effects of mining on regional aquifers, especially associated with use of the Floridan aquifer for **mining** water supply." | *Technical correction*.<br><br>SWFWMD has a separate category for mining water use. | 3-5; App. D, 1 |
| E:2 | ES-5 | 22-24 | "The operations plan calls for the Desoto Mine production to replace that of the existing South Fort Meade Mine (including the extension into Hardee County) with no overlapping periods of mining operation." | "The operations plan calls for the Desoto Mine production to replace that of the existing South Fort Meade Mine (including the extension into Hardee County) **with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up**." | *Technical correction*. | 1-17; 4-12 |
| E:3 | ES-7 | 2-4 | "As proposed in the permit application, mining would impact 3,130 acres of wetlands and approximately 62,446 linear feet of streams meeting the Waters of the United States criteria." | "As proposed in the permit application, mining would impact **3,252.8** acres of wetlands and approximately **64,474** linear feet of streams meeting the Waters of the United States criteria." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
|---|---|---|---|---|---|---|
| E:4 | ES-7 | 9-11 | "The operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing Four Corners/ Lonesome Mine, with no overlapping period of mining operations." | "The operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing **Four Corners Mine with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up.**" | *Technical correction*. | 1-17; 4-12 |
| E:5 | ES-7 | 19-21 | As proposed, the mining would impact 4,593 acres of wetlands and approximately 136,731 linear feet of streams meeting the Waters of the United States criteria. | "As proposed, the mining would impact **4,615.1** acres of wetlands and approximately **136,731** linear feet of streams meeting the Waters of the United States criteria." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |
| E:6 | ES-7 | 25-26 | "The existing Wingate Creek Mine production capacity rate is approximately 1.3 Mt per year." | "The existing Wingate Creek Mine production rate is approximately **1.4 million tonnes (1.5 Mt)** per year." | *Additional/updated information*.<br><br>See Mosaic Co., Annual Report (Form 10-K) (July 2012), which lists production capacity in metric tons. | 1-19 |
| E:7 | ES-7 | 26-28 | "The operations plan calls for phosphate rock production at the Wingate East Mine to replace that of the existing Wingate Creek Mine (and the recent Wingate Extension) with no overlapping periods of operation." | "The operations plan calls for phosphate rock production at the Wingate East **tract to extend and be a continuation of the life of the existing Wingate Creek Mine (and the recent Wingate Extension) without an interruption of operation.**" | *Suggested clarification*.<br><br>Wingate East is not a replacement mine, but an extension of the Wingate Creek mine. | 1-12; 1-19; 4-29; Tbl. 4-5 |
| **Section ES.6.4** | | | | | | |
| E:8 | ES-12 | Tbl. ES-1 | | Correct figures using the tables found in Attachment F. | *Technical correction*.<br><br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
|---|---|---|---|---|---|---|
| **Section ES.6.1** | | | | | | |
| E:9 | ES-15 | Tbl. ES-2 | | Correct figures using the tables found in Attachment F. | *Technical correction*.<br><br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | |
| E:10 | ES-18 to ES-21 | Tbl. ES-5 to ES-11 | | Correct figures using the tables found in Attachment F. | *Technical correction*.<br><br>Several of the acreages in these tables are incorrect. See acres and linear feet tables in Attachment F. | Tbl. 4-55 to 4-61 |
| E:11 | ES-19 | Tbl. ES-8 | Table ES-8. Effects of Setback to Avoid Peace River "Greenway" System | The acreage may be correct, but the map is wrong - see Map labeled, Alternative 4 (Wingate East Mine) Appendix A, pg A5-3, but both should be checked. | *Technical correction*.<br><br>Appendix A, pg A5-3 identifies a 500 foot setback area in the northwest corner of Wingate East as part of the Peace River "Greenway", but this area is not in the Peace River watershed.[3] Note, however, that the northeast corner of Wingate East contains a portion of the West Fork of Horse Creek, a perennial stream in the Peace River watershed. | 4-158; Tbl. 4-58 |

[3] Available at http://www.wildlandsconservation.org/01_downloads/Peace%20River%20Greenway%20draft.pdf.

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
|---|---|---|---|---|---|---|
| **Section E.S.6.2.1** | | | | | | |
| E:12 | ES-22 | 11-14 | "This has led to salt water intrusion into the FAS along the Gulf coast, and reversal of aquifer flow gradients in the Upper Peace River and adjacent watersheds leading to reduced groundwater contribution to river baseflows and lowered lake and wetland stages in this portion of the overall Peace River watershed." | "This has led to salt water intrusion into the FAS along the Gulf coast, and reversal of aquifer flow gradients in the Upper Peace River **leading to reduced groundwater contribution to Upper Peace River base flows and lowered lake and wetland stages in the Upper Peace River watershed.**" | *Suggested clarification.*<br><br>There is no evidence that all river systems in the watershed have experienced direct effects from a lowering of the FAS due to groundwater pumping. Systems in the southern portion of the basin are highly confined and do not communicate with the UFAS as systems in the northern portion of the District. See SWFWMD, Predicted Change in the Hydrologic Conditions along the Upper Peace River due to a Reduction in Ground-Water Withdrawals (July 2003); Predicted Change in Hydrologic Conditions along the Upper Peace River due to a Reduction in Groundwater Withdrawals (Basso, 2003); and SWFWMD, Eastern Tampa Bay Water Resource Assessment Project (1993). | 3-58 |
| E:13 | ES-22 | 22-23 | "Modeling of the other two individual projects was not performed because those are extensions of existing mines; no new FAS water allocations are involved in their operations." | "Modeling of the other two individual projects was not performed because those are extensions of existing mines **and no new groundwater withdrawals or quantities are anticipated to be needed.**" | *Suggested clarification.*<br><br>New groundwater withdrawals or quantities are not anticipated, but future adjustments in water use and/or self-relocation of groundwater withdrawals could be needed to support future mining area extensions. | 4-9; 4-12; 4-82; App. D, 30 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| E:14 | ES-22 | 31-32 | "In contrast, the Ona Mine includes new FAS water wells to be constructed as elements of the project." | "**While** in contrast, the Ona Mine includes new FAS water wells to be constructed as elements of the project**, it is worth noting that because these wells represent permitted quantities, per SWFWMD rules they are not considered "new quantities" with respect to permitted withdrawals.**" | *Suggested clarification*.<br><br>Although this statement is accurate, it is worth noting that these are existing permitted quantities and per District rules are not considered new quantities. | |
| **Section ES.6.2.2** | | | | | | |
| E:15 | ES-23 | 26-28 | "Thus, this area is taken out of a given watershed's surface water contributions to the watershed's water budget except as allowed through discharges from the permitted National Pollutant Discharge Elimination System (NPDES) outfalls." | "Thus, this area is taken out of a given watershed **or subbasin's** surface water contribution to the watershed o**r subbasin's** water budget except **through discharges from the permitted NPDES outfalls and contributions from the ditch and berm system—in the form of groundwater recharge—maintaining groundwater contributions to adjacent wetlands and stream systems.**" | *Technical correction*.<br><br>Add term "subbasin" to match text on Page 3-77; further, this statement omits water contributions resulting from groundwater recharge. | 3-77 |
| E:16 | ES-24 to ES-25 | Figs. ES-5, ES-6 | | Revise legend for figures to replace "Drawdown Contour Lines" with "**Water Level Contours**." | *Suggested clarification*.<br><br>The legend of these figures (and all other simulated groundwater level tables) identifies contour lines as "Drawdown Contour Lines." These labels are potentially misleading because most of the modeling figures indicate recovery or rebound of groundwater levels. We suggest that the label be changed to "Water Level Contours" on all relevant figures. We also suggest that the Most Impact Area (MIA) be included on all contour figures. The MIA is important since it is discussed in several places within the document, such as sections 3.3.7.6, 4.4.1, and 4.12.2.2. | Figs. 4-20; 4-21; 4-22; 4-23; 4-28; 4-29; 4-63 to 4-78 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| E:17 | ES-26 | 25-26 | "This mine is located in the Upper Myakka River Watershed." | "This mine **is primarily** located in the Upper Myakka River Watershed**, with about 10% of the area in the Peace River Watershed.**" | *Technical correction*.<br><br>As demonstrated by Figure 2 of Appendix E, a portion of the northeast corner of the Wingate East is located in the Peace River Watershed. | 4-17; 4-92 |
| **Section ES.6.3** | | | | | | |
| E:18 | ES-28 | 2-4 | "The mines attempt to hold as much of the rainfall captured on their land areas within the ditch and berm system at any given time in order to meet their recirculation system capacity needs. Discharges occur when the system's capacity is exceeded." | "The mines **manage rainfall capture to reduce reliance on groundwater by building water inventory throughout the rainy season to ensure adequate water supply throughout the dry season. This is accomplished through** rainfall captured on their land areas within the ditch and berm system**.**" | *Technical correction*.<br><br>The objective of mine water management is to retain only the quantity of water necessary to operate the recirculation system. Water balance calculations show that generally 20 to 40% of rainfall within the ditch and berm system is actually captured. See Attachment A. | 3-35 |
| **Section ES.7.2** | | | | | | |
| E:19 | ES-31 | 31-34 | "Groundwater modeling of the Floridan aquifer water levels indicated that regardless of the phosphate mining scenarios simulated, regional water levels in the FAS are predicted to increase over most of the model domain as agricultural water use allocations within the SWUCA are gradually reduced by SWFWMD restrictions to be achieved by the year 2025." | "Groundwater modeling of the Floridan aquifer water levels indicated that regardless of the phosphate mining scenarios simulated, regional water levels in the FAS are predicted to increase **(a rise in level)** over most of the model domain as agricultural water use allocations within the SWUCA are gradually reduced by SWFWMD restrictions to be achieved by the year 2025. **Although agricultural water use has, and is expected to continue to decrease due to land use transition coupled with SWFWMD's investment in irrigation conservation and alternative water supply projects, the SWUCA rules and** | *Suggested clarification*.<br><br>Although agricultural water use has, and is expected to continue to, decrease due to land use transition coupled with SWFWMD's investment in irrigation conservation and alternative water supply projects, the SWUCA rules and cooperative funding programs look to future reductions through conservation practices of all user groups, including phosphate mining. It would be helpful to clarify that agricultural water use reductions are only are part of the reason for the increase in FAS water levels. | 4-15 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| | | | | **cooperative funding programs contemplate future reductions through conservation practices by all user groups. Some of the largest historical decreases in permitted and actual use quantities, as well as FAS recoveries within the SWUCA have been associated with the reduction of water use for phosphate mining.**" | | |
| E:20 | ES-32 | 4-6 | "As currently operating mines cease withdrawing groundwater from the FAS, localized water level rebound will occur and this would contribute to the regional FAS water level improvements, albeit by relatively modest amounts." | "As currently operating mines cease withdrawing groundwater from the FAS, localized water level rebound will occur and this would be expected to contribute to material regional FAS water level improvements." **[Delete rest of sentence]** | *Suggested clarification*.<br><br>This statement is not entirely consistent with the analyses and figures within the draft AEIS which indicate that a substantial geographic area will experience water level recovery as mining operations migrate south. Therefore, removal of the phrase "albeit by relatively modest amounts" would be appropriate. | |
| E:21 | ES-32 | 11-13 | "As spring discharge and baseflow contribution to rivers depend on the potentiometric surface of the FAS, an increase in the potentiometric surface of the FAS can be expected to result in additional springflow and/or groundwater contribution to rivers." | "**In areas within the CFPD where the FAS is not well confined,** spring discharge and baseflow contribution to rivers depend **in part** on the potentiometric surface of the FAS**. In those areas, an increase in the potentiometric surface of the FAS can be expected to result in additional springflow and/or groundwater contribution to rivers. In areas of the CFPD where the FAS is well confined, as is the case in the southern portions of the CFPD, increases in the potentiometric surface of the FAS will have limited effects on springflow and/or groundwater contribution to rivers.**" | *Suggested clarification*.<br><br>It is not universally true across the entire region. Areas in the southern portion of the District are highly confined and surface water flows in some of the southern systems are not related to/heavily influenced by FAS water levels.<br><br>See SWFWMD, Predicted Change in the Hydrologic Conditions along the Upper Peace River due to a Reduction in Ground-Water Withdrawals (July 2003); Predicted Change in Hydrologic Conditions along the Upper Peace River due to a Reduction in Groundwater Withdrawals (Basso, 2003); and SWFWMD, Eastern Tampa Bay Water Resource Assessment Project (1993). | 4-231 |

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| **Section ES.7.3** | | | | | | |
| E:22 | ES-32; 34 | Fig. ES-7; ES-8 | | Figures ES-7 and ES-8 show increase to Peace River and Horse Creek flow, with no explanation of the increase | *Suggested clarification.*<br><br>Need to explain the increase in flow to put in context decreased flow due to phosphate mining; maximum capture is overstated at 100%. See Attachment A. | 4-23 |
| E:23 | ES-32 | 24 | ". . . approximately 27 cfs, or 16 percent." | ". . . approximately 27 cfs, or **13.5** percent." | *Technical correction.*<br><br>27/200 = 13.5% However, the analysis needs updating in accordance with surface water capture discussion, in Attachment A. | 4-232 |

# DETAILED COMMENTS ON THE DAEIS – MOSAIC FERTILIZER, LLC

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| **CHAPTER ONE** | | | | | | |
| **Section 1.1.1** | | | | | | |
| 1:1 | 1-1 | 5-7 | "Mosaic Fertilizer LLC (Mosaic) and CF Industries, Inc. (CF Industries) (the Applicants) mine phosphate ore and manufacture phosphoric acid, solid and liquid fertilizers, animal feed supplements, and purified phosphoric acids used in food products and industrial processes." | "Mosaic Fertilizer LLC (Mosaic) and CF Industries, Inc. (CF Industries) (the Applicants) mine phosphate ore and manufacture phosphoric acid, solid and liquid fertilizers, and animal feed supplements." **[Delete rest of sentence]** | *Technical correction*.<br><br>No producers in the CFPD currently make purified acid for food or industrial processes. | |
| **Section 1.1.2** | | | | | | |
| 1:2 | 1-3 | 1-2 | "The Applicants have proposed four new phosphate mines within the southern portion of the CFPD." | "**Within the southern portion of the CFPD, the Applicants have proposed two new phosphate mines (Mosaic's Ona and DeSoto mines) and two extensions of existing mines (Mosaic's Wingate East and CF Industries' South Pasture Extension).**" | *Suggested clarification*.<br><br>Two of the proposed mining areas (Wingate East and South Pasture Extension) are extensions of existing mines. | |
| **Section 1.1.3.4** | | | | | | |
| 1:3 | 1-8 | 5-8 | "This law was further modified in 1977 to allow reclamation refunds on severance taxes imposed after July 1, 1978, only for lands disturbed prior to July 1, 1975, or for lands that had been included in a reclamation program filed with the Department of Natural Resources (DNR) by July 1, 1977, to encourage rehabilitation of lands mined prior to 1975." | "This law was further modified in 1977 to **provide funding and encourage the reclamation of eligible phosphate lands mined before July 1, 1975 through the reimbursement of severance taxes imposed on the industry for mining that occurred after July 1, 1978. This reimbursement program also applied to lands that were included in a reclamation program filed with the Department of Natural Resources (DNR) by July 1, 1977.**" | *Suggested clarification.*<br><br>The phrase "allow reclamation refunds on severance taxes" does not accurately describe the program. | |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

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| 1:4 | 1-8 | 15 | | Insert the following paragraphs after Line 15:<br><br>**In addition to the mandatory reclamation requirements of Chapter 62C-16, F.A.C., the State of Florida regulates all proposed changes to drainage conditions and proposed disturbances to waters of the state through its Environmental Resource Permit (ERP) program, set forth in Chapter 373, F.S. Florida's definition of wetlands is similar to the U.S. Army Corps of Engineers (USACE), such that the two sets of jurisdictional lines are often concurrent; however, variations in the wetlands definitions may lead to discrepancies in the acreage of wetlands identified at a site under either approach. Furthermore, the USACE's jurisdiction does not extend to isolated wetlands where a significant nexus to downstream navigable waters does not exist, whereas Florida can assert jurisdiction over such wetlands.**<br><br>**Rules 40D-4.301 and .032 F.A.C., prescribe the conditions that must be met by an applicant to be issued a state ERP. Similar to the USACE Section 404 permit program, an ERP applicant must first endeavor to eliminate or reduce adverse impacts to wetlands and other surface waters to the extent** | *Additional/updated information*.<br><br>This section as originally written appears to suggest that there are few regulations pertaining to phosphate mining, and thus additional information is warranted. | |

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| | | | | **practicable and then to provide mitigation to offset unavoidable impacts. Typically, mitigation needed to fulfill ERP and USACE Section 404 permit requirements can consist, among other things, of on-site mitigation, off-site (in same watershed) mitigation, purchase of credits from mitigation banks, restoration, enhancement and/or preservation. Unlike the USACE, however, FDEP can accept mitigation conservation easements.**<br><br>**The USACE, when evaluating a phosphate mine Section 404 Permit application, applies a series of tests with regard to avoidance and minimization, to ensure that the least environmentally damaging practicable alternative, or LEDPA, is selected, and to ensure adequate (both in amount and type) mitigation is provided. The USACE, among other things, also relies on the FDEP ERP to certify that the proposed project meets the Clean Water Act Section 401 requirement to maintain/ meet state water quality standards.**<br><br>**Separately, Florida regulates groundwater and surface water use (consumptive use) and discharges of wastewater from industrial and domestic facilities (NPDES). SWFWMD administers the Water Use** | | |

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| | | | | **Permit (WUP) and FDEP administers Wastewater Facilities Permit programs. SWFWMD also regulates the effects of withdrawals on groundwater quality in the FAS beneath the mine site, and all aquifers at the mine property boundary. Florida's groundwater quality standards generally correspond to the federal Safe Drinking Water Act's primary and secondary standards, with groundwater quality monitoring requirements imposed on all phosphate mine operators. Effluent limitations imposed include: technology-based effluent limitations (TBELs), water quality-based effluent limitations (WQBELs) and aquatic life (bioassay) criteria. Additional water quality limitations may be based on Total Daily Maximum Load (TDML) and numeric nutrient criteria (NNC) requirements.**<br><br>**With respect to the WUP program, the mine applicant must demonstrate that the proposed water withdrawals meet conditions for permit issuance prescribed in Chapter 40D-2, F.A.C. Principal among these requirements is that the proposed use is Reasonable and Beneficial and will not interfere with existing legal users. Specific considerations include the use of the lowest quality water needed and alternative water sources, as well as** | | |

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| | | | | **implementation of water conservation measures and consistency with provisions of the Southern Water Use Caution Area (SWUCA) Rule. SWFWMD also imposes requirements to ensure the water table is sufficiently maintained during mining operations to protect adjacent land uses and prevent adverse impacts to off-site and onsite preserved wetlands.**<br><br>**SWFWMD also regulates seasonal flows in rivers and streams through its Minimum Flows and Levels (MFL) regulations published in Chapter 40D-8, F.A.C. Seasonal flow limits have been developed for the Peace and Myakka Rivers based upon a variety of peer reviewed, scientific methods; MFLs are scheduled to be established for Horse Creek before mining on the Ona, DeSoto, or South Pasture Extension properties begin.**<br><br>**Phosphate mining as a land use is principally regulated in accordance with the Comprehensive Plan future land use provisions and the Land Development Codes (LDC) of each county. All counties in the CFPD where phosphate mining is proposed have adopted future land use provisions, zoning, and mine permitting and performance standards, including financial responsibility standards for reclamation and spill response.** | | |

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| **Section 1.2.1.1** | | | | | | |
| 1:5 | 1-9 | 29-30 | "Consumption followed economic trends with declines from 2005 to 2009." | "Consumption of phosphate rock followed economic trends with declines from 2005 to 2009, **resulting in lower rates of U.S. finished phosphate product manufacturing**." | *Suggested clarification*. | |
| 1:6 | 1-10 | 4 | | Insert the following immediately before the sentence beginning on Line 9:<br><br>"**In 2010, the United States was the second largest producer of phosphate rock in the world, with Florida producing more than two-thirds of the domestic phosphate rock for the year. (Nyiri, 2010)**" | *Suggested clarification.*<br><br>The importance of Florida phosphate mining to domestic and world production can be better supported by reference to Nyiri (2010). | |
| 1:7 | 1-10 | 17 | | Add reference to Chapter 7. | *Correction to reference/citation*.<br><br>There is a citation to "(Naira, 2010)" but this source is not included in the list of references in Chapter 7. | |
| 1:8 | 1-11 | 9 | | Add the following sentence to the end of paragraph ending on Line 9:<br><br>"**As shown on Table 1-3, the applications pending before the Corps would not result in an aggregate increase in future production rates, but rather the approval of these pending applications would, if issued, result in maintaining current production rates through 2035.**" | *Suggested clarification.*<br><br>A sentence should be added to this discussion to better explain the relationship between the proposed mines and the mines that that will be closing in the near future. | |

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| 1:9 | 1-11 | 14-16 | "However, as noted previously, the U.S. no longer produces a surplus of phosphate and instead is increasingly reliant on imported phosphate to meet increasing demands for food supplies in the U.S. and elsewhere (Lifton, 2011)." | "**The U.S. continues to be a net exporter of phosphate fertilizers, even though the U.S. no longer exports the unprocessed phosphate rock itself. For example, of the 12 to 13 million tons of DAP/ MAP/ MES annually produced in the U.S., nearly one-half is exported (USGS, 2011). While the U.S. does import some phosphate rock as well as finished phosphate products, overall the U.S. is a significant net exporter of phosphate products**." | *Suggested clarification.*<br><br>The U.S. does not export phosphate rock, but it does export processed phosphate products. | |
| 1:10 | 1-11 | 16-17 | "Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world." | "Additionally, while global phosphate resources currently remain abundant, **there is not a significant surplus of phosphate rock on the market, due to mining capacity being a fairly close match to world phosphate demand. Further, existing reserves** are concentrated in a relatively small **number of locations throughout** the world." | *Additional/updated information*. | |
| 1:11 | 1-11 | 16 & 18 | | Add reference to Chapter 7. | *Correction to reference/citation*.<br><br>There is a citation to "(Lifton, 2011)" but this source is not included in the list of references in Chapter 7. | |
| 1:12 | 1-11 | 24-25 | "As discussed in Section 1.2.1, the CFPD deposit is one of the few remaining minable deposits in the U.S., and provides 51 percent of the U.S. supply as of 2010." | "As discussed **above,** the CFPD deposit is one of the few remaining minable deposits in the U.S., and provides approximately 51 percent of the U.S. supply as of 2010." | *Suggested clarification.*<br>Section 1.2.1 has no text. The referenced material appears in the immediately preceding paragraphs of the same section (1.2.1.1).<br>Regarding this statement, see also Van Kauwenbergh, Steven J., September 2010, | |

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| | | | | | World Phosphate Rock Reserves and Resources, IFDC; and Heffer, Patrick, Medium-Term Outlook for World Agriculture and Fertilizer Demand 2011/12 – 2016/17, International Fertilizer Industry Association (IFA). | |
| 1:13 | 1-12 | Tbl. 1-3 | Notes:<br>a=For Mosaic projects, production rates estimated at 85% of estimated mining capacity; for CF Industries projects, estimated mining capacity is shown. | Update table to reflect most recent information.<br><br>**[Delete a=For Mosaic projects, production rates estimated at 85% of estimated mining capacity]**. | *Additional/updated information*.<br><br>The best source for annual rock production and operational capacity is Mosaic's most recent Form 10-K, which was filed on July 17, 2012.[3] Using this data, the "Estimated Annual Rock Production" and converting it from metric to short tons, for Mosaic's operating mines should be as follows: Four Corners–7.4 million tonnes (8.2 million tons (Mt); Hooker's Prairie– 2.1 million tonnes (2.3 Mt); South Fort Meade–5.0 million tonnes (5.5* Mt); Wingate Creek 1.4 million tonnes (1.5 Mt).[4] * Note: The annual report lists South Fort Meade at 1.2 million tonnes (1.3 Mt) for the past year due to slow-downs attributed to litigation, however, it is expected to produce 5.0 million tonnes (5.5 Mt) with normal operation. | 4-29; Tbl. 4-5; ES-7; 1-12; 1-19 |

[3] Available at http://www.sec.gov/Archives/edgar/data/1285785/000119312512304472/d356870d10k.htm.

[4] The 10-K lists annual operational capacity and annual production in metric tonnes. This comment reflects those numbers converted to short tons. To convert from the metric tonnes in the 10-K to short tons, multiply the metric tonnes by a factor of 1.1.

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| 1:14 | 1-12 | Tbl. 1-3, Note c & e | | Add "**South Fort Meade**" to list of mines in Note c.<br><br>Delete Note e. | *Technical correction*.<br><br>The statement in Note e about South Fort Meade's production being limited by clay content is incorrect. | |
| **Section 1.2.1.2** | | | | | | |
| 1:15 | 1-13 | 3 | | Add a citation to the text and a reference to Chapter 7. | *Correction to reference/citation*.<br><br>A Florida Industrial and Phosphate Research Institute report is referenced on Page 1-13, Line 3, but there is no corresponding citation. Likewise, this report is not included in the list of references in Chapter 7. | |
| 1:16 | 1-13 | 13-15 | "The Florida Phosphate Council's 2004 fact sheet states that the phosphate mining and fertilizer industries together provide an average income of $72,000, which is well in excess of the average income of the counties in the CFPD." | "The Florida Phosphate Council's 2004 fact sheet states that the phosphate mining and fertilizer industries together provide **workers with** an average income of $72,000 **and Mosaic indicates that as of 2010 its mine workers were paid nearly $81,500 in wages and benefits per job, both of which are** well in excess of the average income of the counties in the CFPD." | *Additional/updated information*.<br><br>As stated in *ECONorthwest, Net Economic Impacts of Phosphate Mining*, at 2 (Oct. 18, 2011), this average income figure has increased since 2004. | |
| 1:17 | 1-13 | 13 & 27 | | Correct this reference in Chapter 7. | *Correction to reference/citation*.<br><br>There is a citation to "Florida Phosphate Council's 2004 fact sheet" on Page 1-13, Lines 13 and 27, but this source is not included in the list of references in Chapter 7. There is, however, a reference to the 2003 fact sheet in Chapter 7, but the 2003 fact sheet is cited nowhere in the AEIS. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| 1:18 | 1-13 | 16 | | Add the following after the sentence ending on Line 16: "**Direct economic impacts of mining include: mine support spending, such as engineering, permitting and accounting work—some of which is done off-site but within the local area—contracts with local businesses that provide a wide range of supporting goods and services, as well as electricity generation and supply.**" | *Additional/updated information*.<br><br>As stated in *ECONorthwest, Net Economic Impacts of Phosphate Mining*, at 11-12 (Oct. 18, 2011), there are other important direct impacts that are omitted from this discussion. | |
| 1:19 | 1-13 | 19-21 | "Phosphates accounted for 10.7 million tons (90 percent) of the port's outbound tonnage, with phosphate rock making up 1.8 million tons (BREA, 2002)." | "**In 2002,** phosphates accounted for 10.7 million tons (90 percent) of the port's outbound tonnage, with phosphate rock making up 1.8 million tons (BREA, 2002)." | *Suggested clarification.*<br><br>Shipping rates have recently varied. | |
| 1:20 | 1-13 | 21 | | Add a citation to the text and a reference to Chapter 7. | *Correction to reference/citation*.<br><br>There is a citation to "(BREA, 2002)" but this source is not included in the list of references in Chapter 7. | |
| **Section 1.2.2.1** | | | | | | |
| 1:21 | 1-14 | 15-18 | "The overall project purpose is to maximize extraction of phosphate ore from the known mineral reserves located within a practicable pumping distance from the Wingate East ore separation/beneficiation plant and to maintain production capabilities of existing beneficiation facilities at optimum production levels." | "The overall project purpose is to maximize extraction of phosphate ore from the known mineral reserves located within a practicable pumping distance from the Wingate **Creek** ore separation/beneficiation plant and to maintain production capabilities of existing beneficiation facilities at optimum production levels." | *Technical correction*.<br><br>Wingate East tract is an extension of the Wingate Creek mine that will not require a separate beneficiation plant. | |

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| **Section 1.3** | | | | | | |
| 1:22 | 1-17 | 5-7 | "The operations plan calls for the Desoto Mine production to replace that of the existing South Fort Meade Mine (including the extension into Hardee County) with no overlapping periods of mining operation." | "The operations plan calls for the Desoto Mine production to replace that of the existing South Fort Meade Mine (including the extension into Hardee County) **with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up**." | *Technical correction*. | ES-5 |
| 1:23 | 1-17 | 10-12 | "Mining would impact 4,034 acres of wetlands and approximately 128,639 linear feet of streams meeting the Waters of the United States criteria." | "Mining would impact **3,252.8** acres of wetlands and approximately **64,474** linear feet of streams meeting the Waters of the United States criteria." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |
| 1:24 | 1-17 | 14-15 | "A new 22,320-acre dragline-based phosphate mine located in western Hardee County within the Peace River watershed." | "A new 22,320-acre dragline-based phosphate mine located in western Hardee County **predominantly in the Peace River watershed, with a small portion in the Myakka River watershed.**" | *Technical correction*.<br><br>As shown, for example, in Figure 1-3, a small western portion of Ona is located in the Myakka River Watershed. | ES-7 |
| 1:25 | 1-17 | 16-18 | "The operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing Four Corners/ Lonesome Mine, with no overlapping period of mining operations." | "The operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing Four Corners/ Lonesome Mine, **with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up**." | *Technical correction*. | ES-7 |
| 1:26 | 1-17 | 25-26 | "Mining would impact 5,389 acres of wetlands and approximately 208,366 linear feet of streams meeting the Waters of the United States criteria." | "Mining would impact **4,615.1** acres of wetlands and approximately **136,731** linear feet of streams meeting the Waters of the United States criteria." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |

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| 1:27 | 1-19 | 1-3 | "A 3,635-acre dredging and dragline-based extension of the existing permitted Wingate Creek Mine located in eastern Manatee County within the Myakka River watershed." | "A 3,635-acre dredging and dragline-based extension of the existing permitted Wingate Creek mine located in eastern Manatee County **predominantly in the Myakka River watershed, with a small portion in the Peace River watershed.**" | *Technical correction*.<br><br>As shown, for example, in Figure 1-3, a small eastern portion of Wingate East is in the Peace River Watershed. | |
| 1:28 | 1-19 | 3-4 | "The existing Wingate Creek Mine production capacity rate is approximately 1.3 Mt per year." | **"**The existing Wingate Creek Mine production capacity rate is approximately **1.4 million tonnes (1.5 Mt)** per year." | *Additional/updated information*.<br><br>See Mosaic Co., Annual Report (Form 10-K) (July 2012). | ES-7; 1-12; 1-19 |
| 1:29 | 1-19 | 4-6 | "The operations plan calls for phosphate rock production at the Wingate East Mine to replace that of the existing Wingate Creek Mine with no overlapping periods of operation." | "The operations plan calls for phosphate rock production at the Wingate East **tract to extend and be a continuation of the life of the existing Wingate Creek Mine (and the recent Wingate Extension) without an interruption of operation.**" | *Technical correction*.<br><br>Wingate East is an extension of the Wingate Creek mine, not a new or replacement mine. | ES-7 |
| 1:30 | 1-19 | 8-9 | "Mining would impact 940 acres of wetlands and approximately 32,210 linear feet of streams meeting the Waters of the United States criteria." | "Mining would impact **784** acres of wetlands and approximately **27,014** linear feet of streams meeting the Waters of the United States criteria." | *Technical correction*.<br><br>See Attachment F. | |
| 1:31 | 1-19 | Tbl. 1-5 | | **Table 1-5: Correct the Title of the table**. | *Suggested clarification.*<br><br>The table's title says that it reflects "Affected" wetlands and streams, but its data reflects total onsite wetlands and streams. See acres and linear feet tables in Attachment F. | |

## DETAILED COMMENTS ON THE DAEIS – MOSAIC FERTILIZER, LLC

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| **Chapter Two** | | | | | | |
| **Section 2.2.2** | | | | | | |
| 2:1 | 2-6 | Tbl. 2-2 | | Add the following text as a footnote to Table 2-2:<br><br>"**While this table appears to show mine sites that contain significant acreage of permitted, unmined areas, the acres shown are full mine acres many of which are already nearly depleted of phosphate, and some that no longer have a processing plant.**"<br><br>(Also, Hopewell and Kingsford Complex should be removed from this table as they are closed. Fort Green and Fort Meade are also closed but have some reserves that could potentially be mined to other sites). | *Suggested clarification.*<br><br>The acres shown on Figure 2-2 may give a false impression to the public that there are more permitted reserves (and many years of mining that could occur in a no action alternative) than there are. Kingsford and Hopewell reserves are both depleted and closed. | |
| 2:2 | 2-8 | Tbl. 2-3 | | | *Technical correction*.<br><br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

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| **Section 2.2.3** | | | | | | |
| 2:3 | 2-8 | 6-8 | "These alternatives comprise three categories of geographic buffers or setback for consideration to afford a higher level of environmental protection than what may be currently proposed by the Applicants." | "These alternatives comprise three categories of geographic buffers or setbacks **with respect to on-site avoidance alternatives: 1) avoid mining within defined buffers around high quality resources, 2) avoid mining of intermittent or perennial streams and 3) avoid mining within the wildlife corridors or "Greenways" along the Peace River. The AEIS then applied these avoidance criteria to the four proposed mines and to the extent possible, the foreseeable mines and off-site alternatives for the purpose of disclosure, but without respect to any site-specific considerations, including practicability based on cost, technical and logistical factors.**" | *Suggested clarification.*<br><br>Buffer considerations should include more review of potential impacts and whether the buffer would actually help, for example, potential reduction in flood storage capacity, potential reduction in flood flow conveyance capacity, potential water quality degradation, or wildlife use. Additionally:<br><br>• Floodplain buffers do not equate to significant wildlife or aquatic habitat but rather vary widely on a site-specific basis;<br>• Mining prohibitions in these buffers ignore the fact that phosphate mining areas create significant volumes of additional flood storage capacity;<br>• Phosphate mine operators have the capability to construct alternate channels to convey flood flows at rates comparable to existing floodways;<br>• Phosphate mine water recirculation systems have been proven to provide water quality treatment capacity sufficient to ensure water quality standards are met at the point of discharge.<br><br>See Attachment B for more detailed information. | |

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| **Section 2.2.3.2** | | | | | | |
| 2:4 | 2-8 | 18 | | Insert the following text after the sentence ending on Line 18:<br><br>"**According to the ACOE nationwide permits: "An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for streams flow"; and "A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow." 77 Fed. Reg. 10184 (Feb. 21, 2012).**" | *Additional/updated information*.<br><br>Include definitions of intermittent and perennial streams. | |
| **Section 2.2.3.3** | | | | | | |
| 2:5 | 2-9 | 3 | | Insert the following after the sentence ending on Page 2-9, Line 3:<br><br>"**The Peace River "greenway" concept was developed to provide guidance for the public acquisition or permanent protection through easements of parcels along the Peace River.**" | *Additional/updated information*.<br><br>Clarify the purpose of the Peace River Greenway. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| **Section 2.2.4.2** | | | | | | |
| 2:6 | 2-11 | 13-19 | "Such feasibility must focus on the accomplishment of the underlying purpose and need that would be satisfied by the proposed Federal action (permit issuance). Practicable alternatives are defined in the USACE Section 404(b) (1) Guidelines as depending on cost, technical, and logistical factors. Although this screening process is intended to rule out *clearly not practicable* alternatives, the remaining alternatives are *not presumed to be clearly practicable* (i.e. clearly not practicable alternatives will be screened out while some remaining alternatives may ultimately also prove to be not practicable when site specific information is identified for those locations)." | "Such feasibility must focus on the accomplishment of the underlying purpose and need that would be satisfied by the proposed Federal action (permit issuance). Practicable alternatives are defined in the USACE Section 404(b) (1) Guidelines as depending on cost, technical, and logistical factors **in light of overall project purpose. The complete 404(b)(1) evaluation is done on a permit by permit basis.** Although this screening process is intended to rule out *clearly not practicable* alternatives, the remaining alternatives are *not presumed to be clearly practicable* (i.e. clearly not practicable alternatives will be screened out while some remaining alternatives may ultimately also prove to be not practicable when site specific information is identified for those locations). **In this way, a broader array of possibly reasonable alternatives are included in the AEIS for NEPA purposes.**" | *Suggested clarification.*<br><br>Applicability of alternatives review under NEPA and 404(b)(1) should be distinguished because NEPA directs the AEIS, while the 404(b)(1) assessment involves a different use of alternatives for permit application review. One of the ways that the alternatives analysis differs is that under NEPA, a wider array of "reasonable" alternatives may be presented, since the NEPA alternatives are not limited to what is practicable in light of particular project purposes. | |
| 2:7 | 2-11 | 20 | "Phosphate mining must be done where economically mineable reserves are likely to be located." | "Phosphate mining can only occur where economically mineable reserves are located." **[Delete "likely to be"]** | *Suggested clarification.*<br><br>Mining can only occur where reserves are located. | |
| 2:8 | 2-11 | 20-23 | "At this stage of the alternatives review, reserves within the CFPD are assumed to be uniformly present in quantities which would provide the volume and relative phosphorus content of mineable ore at | "At this stage of the alternatives review, reserves within the CFPD are assumed to be uniformly present in quantities which would provide the volume and relative phosphorus content of mineable ore at | *Suggested clarification.*<br><br>See Attachment B, which addresses additional screening criteria including prospect data information. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| | | | proximity to the surface for reasonable extraction." | proximity to the surface for reasonable extraction. **Actual reserve quantity and quality, however, is highly variable. Thus, this assumption is made here for the limited purpose of screening potential alternative polygons. Prospect data and other information is necessary to evaluate specific alternatives, and will be discussed later in the analysis.**" | | |
| **Section 2.2.4.3** | | | | | | |
| 2:9 | 2-22 | 20 | | After Line 20 (but still within Section 2.2.4.3), create a new sub-heading, **SWFWMD Land Use Vs. National Land Cover Database**, to be followed by this text:<br><br>**With respect to land use and cover for the CFPD, SWFWMD maps show land use rather than land cover, for mined lands. Accordingly, SWFWMD generally applies one of two FLUCFCS codes to phosphate mined lands: 1610 = strip mining and 1650 = reclaimed land. SWFWMD has mapped actual land cover (e.g., lakes, wetlands, upland forest, etc.) only in isolated locations, labeling the rest "extractive." This causes the acreage of reclaimed land, as well as the acreage of reclaimed wetlands, to be understated in the 2009 SWFWMD data.** | *Suggested clarification.*<br><br>SWFWMD labeling most of the current and historic mines in the CFPD as "Extractive" may be misleading and understate reclaimed lands. The National Land Cover Database (NLCD) is a better GIS coverage for land use in the CFPD. | 3-108 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| | | | | **The most accurate accounting of the status of areas mined after July 1, 1975 (mandatory lands) in the CFPD is maintained by the FDEP. As of December 2010, FDEP reported a total of 134,901 acres of mandatory mined lands had been reclaimed. In contrast, the 2009 SWFWMD GIS data set classifies 70,773 acres as 1610 – strip mines and 80,656 acres as 1650 – reclaimed land, a difference of 54,245 acres between the two sources. Unfortunately, FDEP does not have a GIS data set to produce a land cover map of the 134,901 acres that have been reclaimed, because maps prepared by mine operators before 1995 pre-dated current GIS technology. Thus, while Mosaic and CF have GIS records, many other operators were closed by 1995 such that GIS maps were never created for some areas.**<br><br>**In the alternative, the National Land Cover Database (NLCD) can be used as a surrogate for the SWFWMD FLUCFCS to identify the land cover types present on reclaimed lands. The NLCD is cooperatively developed by the U.S. Geological Survey, the National Oceanic and Atmospheric Administration, EPA, the U.S. Department of Agriculture, the U.S. Forest Service, the National Park** | | |

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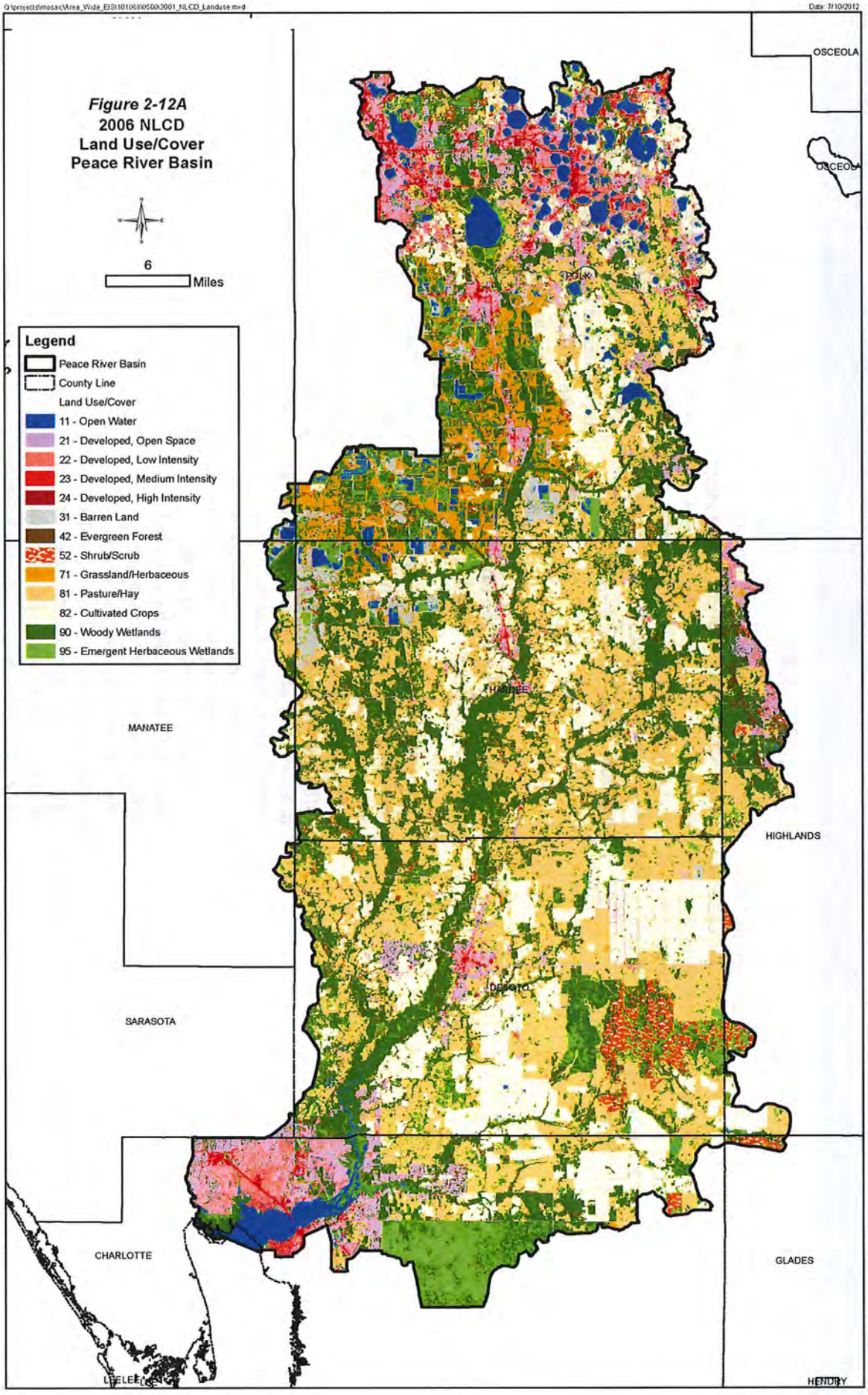
| | | | | **Service, the Bureau of Land Management, and the U.S. Fish and Wildlife Services. The most recent NLCD database available is dated 2006.**<br><br>**Figure 2-12A on the following page (which is recommended to be inserted between existing Figure 11 and 12) illustrates the NLCS in the portion of the CFPD lying in the Peace River watershed and Table -2-12A provides a tabulation of the cover types listed by NLCD within the SWFWMD Extraction coverage. These data demonstrates:**<br><br>• **The acreage of land use mapped by SWFWMD as Extraction actually consists of a variety of land covers;**<br>• **The acreage not yet reclaimed is more accurately accounted for in FDEP's Rate of Reclamation report;**<br>• **The SWFWMD land use maps significantly understate the acreage of wetlands in the Peace River watershed;**<br>• **The NLCD provides an approximation of the land use in the CFPD and can be used to facilitate the analyses presented in Chapters 3 and 4.** | | |

## TABLE 2-12A

**COMPARISON OF AVAILABLE LAND COVER DATASETS:
PEACE RIVER BASIN WITHIN
THE CENTRAL FLORIDA PHOSPHATE DISTRICT**

| | 2009 SWFWMD FLUCFCS | NLCD Land Cover |
|---|---|---|
| Open Water | 22,707.76 | 31,423.57 |
| Open Space | 23,205.76 | 40,369.21 |
| Urban (low) | 22,242.57 | 14,490.84 |
| Urban (medium) | 17,046.23 | 5,522.56 |
| Urban (high) | 23,894.24 | 2,177.02 |
| Barren Land | 222.09 | 22,784.25 |
| Forests | 96,588.96 | 190,545.76 |
| Shrub/Scrub | 26,726.81 | 8,187.43 |
| Grassland | 774.63 | 56,104.69 |
| Pasture/hay | 118,395.53 | 132,220.34 |
| Cropland | 65,355.65 | 79,544.93 |
| Marshes | 41,011.43 | 26,229.42 |
| Extractive | 70,772.77 | 0.00 |
| Reclaimed | 80,655.59 | 0.00 |
| TOTAL | 609,600.02 | 609,600.02 |

Q:\projects\mosaic\Area_Wide_EIS\101068\0500\2001_NLCD_Landuse.mxd Date: 7/10/2012



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| **Section 2.2.4.4** | | | | | | |
| 2:10 | 2-27 | 7-9 | "Discussion with the Applicants and the FDEP indicated that a single parcel needed to be on the order of 600 acres in size to be of sufficient to support one to two years of mining, including the required clay settling area if applicable." | "Discussion with the Applicants and the FDEP indicate that a single parcel **needs** to be on the order of 600 acres in size to be sufficient to support one to two years of mining, **but would not be sufficient to also accommodate a clay settling area.**" | *Technical correction*.<br><br>A parcel 600 acres in size would not be large enough for clay settling area construction, and therefore the reference to a CSA on a potential in-fill parcel should be omitted. There would, however, have to be sufficient extra clay storage capacity in existing/approved CSAs to accommodate additional outparcel mining. | |
| 2:11 | 2-33 | 10 | | Insert the following at the beginning of the paragraph starting on Line 10:<br><br>"**It should be noted that even though the above assumptions were made for the purpose of this review, the 9,000 acre minimum mine size may not, in fact, be sufficient in size to provide for the beneficiation plant facilities, initial clay settling area, related mine infrastructure needs, setbacks and on-site avoidance requirements. Every potential mine site has specific constraints that must be analyzed before it can be developed as an alternative mine site. While the 9,000 acre minimum can serve as an effective initial screen, it does not represent a definitive site finding. Further, the amount of recoverable phosphate from any given site depends largely on the** | *Suggested clarification.*<br><br>The assumptions in this section that a 9,000-mineable acre site is necessary for a new mine and that each acre contains 9,000 tons per acre are reasonable in general for a small mine, but may not be appropriate in every case. We suggest that these assumptions be better explained and qualified. | |

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| | | | | **geology and presence/absence of phosphate ore in sufficient quantity and quality. The assumption that an average of 9,000 tons per acre of recoverable phosphate rock exists throughout the CFPD does not consider the grade and quality variations of the phosphate which may exist, particularly in the southern reaches of the CFPD.**" | | |
| 2:12 | 2-33 | 19 | | Add the following after the sentence ending on Line 19:<br><br>"**While this is in the range of CF's South Pasture facility and/or other historic mining facilities, Mosaic has proposed to develop larger capacity beneficiation plants for greater efficiency of production based on the expected matrix composition at its proposed mine sites and to meet productions needs.**" | *Additional/updated information*.<br><br>It is important to note that the assumption about the minimum production capacity necessary to support a beneficiation plant is based on information from CF that is not necessarily applicable to Mosaic's operations, nor sufficient to meet Mosaic production needs. | |
| **Section 2.2.4.8** | | | | | | |
| 2:13 | 2-42 | 5 | "The screening of the remaining polygons began with a review of wetland areas as defined by the 2009 Level 1 FLUCCS codes and the NRCS layers for hydric soils." | Add after the sentence ending on lines 5:<br><br>"**Although it is recognized that wetland estimates from GIS coverages will not be not as accurate as approved jurisdictional wetland determinations based on field review of hydric soils, vegetative and hydrologic indicators, this method is sufficient for a site screening analysis. When available, site-specific data can be substituted to improve accuracy.**" | *Suggested clarification*.<br><br>It is recommended that the three components of wetlands be provided as well as that the most accurate method of making these determinations is through actual field work. | |

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| 2:14 | 2-42 | 14 | | Add at the end of the sentence ending on Line 14:<br><br>"**It should be noted that use of the Hydric Ranking data alone may overstate the acreage of hydric soil because each map unit ranked as hydric in SSURGO is not always 100 percent hydric. Additional refinement could be achieved through use of the percent of hydric components provided by NRCS in the National Hydric Soils List; however, that was not deemed necessary for this screening process.**" | *Suggested clarification*.<br><br>Additional clarification needed to provide full understanding of what was done and why. | |
| 2:15 | 2-44 | Fig. 2-21 | Title: "Figure 2-21. Tier 2 Overlay – Wetlands/ Hydric Soils" | Revised title: "**Figure 2-21. Tier 2 Overlay – Hydric Soils**"<br><br>**[Delete: "Wetlands"]** | *Technical correction*.<br><br>It may be an oversight, but the screening analysis appears to only include hydric soils data, not wetlands. While the hydric soil coverage is probably the best indicator of potential wetland extent (because soil survey data is extensively ground-truthed), the text indicates it is based on a combination of hydric soils and wetland FLUCFCS. In review of the shape files for Fig. 2-21 we could not confirm the use of any FLUCFCS data. In the alternative to changing the map title, we suggest updating the map to reflect the intersection of hydric soils and FLUCFCS wetland data (e.g., NWI). This will have a corresponding impact on Tables 2-9 and 2-18. If wetland data is not used, the text on pages 2-42 and 2-43 will also need to be amended. | 2-45; 2-76 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 2:16 | 2-45 | Tbl. 2-9 | Title: "Table 2-9. Ranking of Polygons Based on Wetlands/Hydric Soils Coverage" | Revised title: "Table 2-9. Ranking of Polygons Based on Hydric Soils Coverage" **[Delete: "Wetlands"]** | *Technical correction.*<br><br>As with the map in Figure 2-21, the data for Table 2-9 appears to only represent hydric soil information, no FLUCFCS data. In the alternative, update the map and table to reflect the intersection of hydric soils and the FLUCFCS wetland data (e.g., NWI). | 2-44; 2-76 |
| 2:17 | 2-57 | 7-13 | "Although the coverage consists of largely undisturbed lands in the riverine floodplains (core lands) and adjacent reclaimed "buffer" lands, much of the IHN that has not been placed in conservation easements has been converted to agriculture, pasture, or otherwise modified land uses that afford lower habitat value. The IHN Corridors, including the core lands and buffer lands, which complement and enhance the habitat value of the core lands, benefit the water quality and quantity of the surrounding area and serve as upland habitat connections between the mining region's rivers and significant environmental features outside the mining region." | "**The IHN coverage consists largely of riverine floodplains (core lands) and both existing and potential connectors between the core lands and other significant wildlife habitat areas. The IHN is primarily used as a CFPD planning tool to guide the location of wildlife habitat construction, enhancement or preservation to maximize potential wildlife utilization, migration and water quality protection in the area. This has allowed, and potentially will allow in the future, the removal of much of the agriculture, pasture, or other degraded / converted lands in favor of maintained or reclaimed habitat placed in permanent protection.**" | *Suggested clarification.*<br><br>The IHN is more of a planning tool for reclamation than a regulatory tool to denote areas of preservation. | |
| 2:18 | 2-57 | 13-14 | "Participation in the IHN concept is strictly voluntary, but has gained wide acceptance and virtually unanimous implementation in the industry." | "**Participation in the IHN concept can involve the preservation of certain riverine corridors but also involves the design of post-mining reclamation/ mitigation to fill in gaps and improve corridors to benefit future water quality and wildlife migration. Incorporation of the IHN concept in mine planning has gained wide acceptance and virtually unanimous implementation in the industry.**" | *Additional/updated information.* | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 2:19 | 2-57 | 15-17 | "Conservation of these areas is considered by the state as an important part of the goal to protect and increase habitat corridors within the region and the state, and therefore, the presence of a high percentage of IHN coverage could designate unique habitats or high quality natural areas." | "Conservation of these areas is considered by the state as an important part of the goal to protect and increase habitat corridors within the region and the state. **When interpreting Table 2-13 and Figure 2-31, the USACE considers what opportunities, if any, a given site will provide to enhance and permanently protect regional wildlife corridors within the IHN. For example, sites CC-2 and GG are totally isolated from the IHN and therefore, offer no clear benefit in terms of IHN connectivity. In contrast, as shown on Figure 2-31, site II offers the opportunity to interconnect the Alafia and Little Manatee River IHN wildlife corridors and would, therefore, be of more value from this perspective than sites CC-2 or GG.**" | *Suggested clarification.*<br><br>IHN considerations are not necessarily just based on presence/ absence or how much. The FDEP's documentation in support of the IHN clearly states its purpose is to guide reclamation planning, not as a basis for determining preservation. The example may be helpful to make that more clear. | |
| **Section 2.2.5.1** | | | | | | |
| 2:20 | 2-68 | 23-24 | "Dredge systems are high energy users, and high water consumption is also characteristic of dredging operations due to water entrainment in clays and evaporation from the dredge ponds." | "**Dredge systems are generally comparable to draglines with respect to energy use and water consumption. Use of dredge systems can produce less efficient ore recovery due in part to the inability to observe the matrix. Therefore, it's only used in unique situations where the ore zone is thick, deep and uniform.**" | *Technical correction*.<br><br>This sentence does not accurately reflect the dredge system and dragline characteristics. | |
| 2:21 | 2-68 | 28-29 | "Because the clay is thoroughly saturated with water, more water must be managed in the process as well." | Delete the sentence in its entirety. | *Suggested clarification.*<br><br>There is not "more water" to be "managed." | |

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| **Section 2.2.5.3** | | | | | | |
| 2:22 | 2-72 | 6-8 | "The most reasonable approach to importation would be to bring the rock into the Port of Tampa by ship then transfer the rock to barges or trucks for transport to the processing facilities." | "The most reasonable approach to importation would be to bring the rock into the Port of Tampa by ship then transfer the rock to **rail cars (subject to rail upgrades)** or trucks for transport to the processing facilities." | *Technical correction*.<br><br>Taking imported rock by barge from the Port of Tampa to inland fertilizer plant(s) is not feasible or practicable (there are no inland waterways). It is also worth noting that the rail system would require upgrades to handle incoming rock, as well as the current loads of processed phosphate products. | |
| 2:23 | 2-72 | 10-30 | | The following revisions to the list of "Needs" are warranted:<br><br>(i) change Line 15 to "**d. Equipment and support for rail and truck loading.**"; (ii) change Line 19 to "**a. Additional ground transportation including rail cars, power equipment and trucks**"; (iii) change Lines 20-21 to "**b. Construction and maintenance of additional mooring and staging areas for marine equipment in Tampa**"; (iv) change Line 25 to "**a. Equipment and support for rail and truck unloading.**" | *Technical correction*.<br><br>Consistent with the preceding comment, references to barges should be replaced by references to rail cars and trucks in the discussion of alternatives. | |
| 2:24 | 2-73 | 2-3 | "Mosaic increased production at its other mines and used imported phosphate rock from Morocco and Peru as feedstock to its fertilizer plants to replace lost production." | "**To replace lost production,** Mosaic increased production at its other mines and **also** used imported phosphate rock from Morocco and Peru as feedstock to its **Louisiana** fertilizer plant, **which is capable of using imported rock. Mosaic continued to use Florida phosphate rock for its Florida fertilizer plants."** | *Technical correction*. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 2:25 | 2-73 | 6-8 | "Mosaic implemented importation on a limited basis to meet its short-term needs, but for the following reasons intends to resume operations at the South Fort Meade Mine as soon as the administrative proceedings are resolved." | "**However, there are significant reliability and security concerns associated with dependence on phosphate rock from foreign countries. (Nyiri, 2010) For example, stability in a number of phosphate exporting-countries has been undermined by recent geopolitical events in the Middle East and Northern Africa (including unrest in Morocco that led to sweeping government reforms in 2011 and ongoing Syrian riots). Upon the resolution of the administrative proceedings, Mosaic resumed use of the South Fort Meade Mine rock to supply Mosaic fertilizer facility(ies) as needed.**" | *Additional/updated information*.<br><br>This statement should be revised in light of recent developments regarding South Fort Meade.<br><br>The significant reliability and security concerns associated with dependence on phosphate rock from foreign countries may be understated in light of recent events and for the reasons outlined in the Nyiri Report at 7-12. | |
| **Section 2.3** | | | | | | |
| 2:26 | 2-73 | 29-34 | "Dredging has applicability in areas where the ore is too deep for effective dragline operations, but the limitations related to high energy use, inability to observe the matrix to optimize extraction of ore, and high volume of waste produced as a result relative to the ore extracted indicated that dredging was an operational methodology chosen based on site specific mining conditions and not considered a reasonable option for all mines." | "Dredging has applicability in areas where the ore is too deep for effective dragline operations, but has limitations **due to the inability to observe the matrix to optimize extraction of ore. A higher volume (due to expansion of overburden when its pumped) of material is generated in dredge mining, as a result of handling overburden by dredge and slurry instead moving it dry.** Thus, dredging methodology is chosen based on site specific mining conditions and is not considered a reasonable option for all mines." | *Additional/updated information*. | 2-68 |

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| **Section 2.4** | | | | | | |
| 2:27 | 2-76 | Tbl. 2-18 | Fourth column heading:<br><br>"Wetland/Hydric Soils Acreage" | Revised fourth column heading:<br><br>"Hydric Soils Acreage"<br>**[Delete: Wetlands]** | *Technical correction*.<br><br>As with Table 2-9, this column appears to represent hydric soil acreage only, without FLUCFCS data. Either the acres should be adjusted to represent the combination of wetlands and hydric soils, or the column heading should be changed. | 2-44; 2-45 |
| 2:28 | 2-76 | Tbl. 2-18 | Table 2-18 The 24 Alterantive to be Assessed in More Detail | Correct acreages with respect to DeSoto, Ona, and Wingate East based on the tables in Attachment F. | *Technical correction*.<br><br>It appears that the acres in this table may have been separately generated through a GIS exercise rather than using information available in the applications. See acres and linear feet tables in Attachment F. | |

## DETAILED COMMENTS ON THE DAEIS – MOSAIC FERTILIZER, LLC

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| **Chapter Three** | | | | | | |
| **Section 3.1.1** | | | | | | |
| 3:1 | 3-2 | 3-4 | "Installation of ditch and berm systems at the mine boundaries to prevent uncontrolled offsite runoff, and around all preservation areas." | "Installation of ditch and berm systems at the mine boundaries **is done** to prevent uncontrolled off-site runoff**, and enhance groundwater recharge for the protection of adjacent habitats**." | *Technical correction*.<br><br>This statement does not mention that groundwater recharge is one of the primary functions of a ditch and berm system. | |
| **Section 3.1.3** | | | | | | |
| 3:2 | 3-5 | 3-4 | "The ore produced is shipped from the mine site, typically by railroad conveyance or truck." | "The **phosphate rock** produced is shipped from the mine site **to the fertilizer plant,** typically by railroad conveyance or truck." | *Technical correction*.<br><br>In mining terminology, the ore is the matrix. Once it is beneficiated and destined for the fertilizer plant, it is referred to as phosphate rock. The "ore" is moved via pipelines. | |
| 3:3 | 3-5 | 15-17 | "Historically, phosphate mining operations have used industrial water supply wells installed into the FAS to provide supplemental water for the beneficiation process and/or recirculation system on an as needed basis." | "Historically, phosphate mining operations have used **mining** water supply wells installed into the FAS to provide supplemental water for the beneficiation process and/or recirculation system on an as needed basis." | *Suggested clarification.*<br><br>SWFWMD has a separate category for mining water use. | ES-3; 4-9; 4-75; App. D, 1 |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

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| **Section 3.1.4** | | | | | | |
| 3:4 | 3-5 | 31-32 | "Typically, CSAs are developed to service an extended period of mine operations - on the order of decades." | "Typically, CSAs are developed to service an extended period of mine operations – **in the magnitude of up to 20 years.**" | *Suggested clarification*<br><br>Decades implies a much longer period. | |
| 3:5 | 3-5 | 34-36 | "CSA designs have changed over time, with more modern designs resulting in a lower percentage of the overall mine area being dedicated to these storage areas." | "CSA design **and operation has** changed over time, with more modern, designs having higher dams. **With respect to operations, CSAs undergo alternating filling and resting cycles,** resulting in a lower percentage of the overall mine area being dedicated to these storage areas. **CSA design and area, however, also vary based on the expected clay content unique to each mine deposit.**" | *Additional/updated information*.<br><br>Modern design and operation decreases CSA area. | |
| 3:6 | 3-5 to 3-6 | 36 to' 3 | "Additionally, the relative sand/clay/phosphate ore content of the matrix varies, with relatively lower clay percentages encountered in the southern portions of the CFPD, this has contributed to a lowering of this CSA fraction of the total mine acreage as reflected in the proposed Ona and DeSoto Mine projects' plans." | Delete the sentence in its entirety. | *Technical correction*.<br><br>It is not correct to state that there is a lower clay percentage in the southern portion of the CFPD. Clay content is variable across the CFPD. | |
| **Section 3.1.5** | | | | | | |
| 3:7 | 3-7 | 7-8 | FIPRI | **FIPR** | *Typographical error*.<br><br>The Florida Industrial and Phosphate Research Institute is referenced as (FIPRI) but is properly referred to as (FIPR). Even though the name has changed, they have maintained the same acronym. | |

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| **Section 3.3.1.3** | | | | | | |
| 3:8 | 3-17 | 33-35 | "While topographic relationships approximating the pre-mining condition are typically achieved, there is no question that the reclaimed land areas have surficial soil characteristics that are modified from the pre-mining condition." | "**In areas where reclamation topography approximates pre-mining conditions, past methods of reclamation sometimes resulted in soils with surface hydrologic conditions that differed from the native soils in the pre-mine condition. Current soil reclamation methods, however, utilize the placement of permeable sand tailings over layers of overburden (overburden is typically characterized by lower permeability). This method results in the creation of reclaimed soils with similar surface hydrologic profiles compared to the native soils in the pre-mine condition.**" | *Suggested clarification.*<br><br>This sentence does not accurately reflect reclamation practices. | |
| 3:9 | 3-18 | 22-24 | "Group D soils are characterized by having high runoff potential when thoroughly wet, and where water movement through the soil is restricted or very restricted. Group D soils typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures." | "Group D soils are characterized by having high runoff potential when thoroughly wet, and where water movement through the soil is restricted or very restricted. Group D soils typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures, **and/or the soil is periodically saturated to within 24 inches of the surface.**" | *Suggested clarification.*<br><br>The Group D soils need this additional clarification for accuracy, and consistency with explanation on Line 28. | |
| 3:10 | 3-18 | 25-31 | "Some soils have characteristics which are a blend of the above four groups. Such "dual hydrologic soils groups" are designated by a combination of the letters. For example, Group A/D soils are characterized by being wet soils and are placed in Group D based solely on the presence of a water table within 24 inches | "**In addition to the four primary soil hydrologic groups, some soils have dual ratings that predict the effects of drainage on infiltration and runoff. For example, soils in hydrologic Group A/D are Group D soils in their native condition because of the presence of a seasonal high water table within 24** | *Suggested clarification.* | |

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| | | | of the surface even though the saturated hydraulic conductivity may be favorable for water transmission when unimpeded. If these soils could be adequately drained, then they are assigned to dual hydrologic soil groups (A/D, B/D, and C/D) based on their saturated hydraulic conductivity and the water table when drained." | **inches, however, runoff can be lessened and infiltration increased if the soil is adequately drained.**" | | |
| 3:11 | 3-19 | 1-2 & Tbl. 3-1 | "The 'soil types by hydrologic group layer' GIS coverage was acquired from the NRCS databases (2000-2010)." | No change needed if this is the data that is being relied on, however; see comment. | *Additional/updated information*.<br><br>The Soil Hydrologic Group Classification for soils in the CFPD counties was updated between 2010 and 2012. Therefore the citation/ data could be updated accordingly. See also Comment 3:13, below. | App. E, Sec. 2.3.4 |
| 3:12 | 3-19 | 6-7 | "The CFPD is characterized as having mostly sandy well drained soils . . . ." | "The CFPD is characterized as having mostly sandy **poorly** drained soils . . . ." | *Technical correction*.<br><br>Although the soils are sandy, due to the high water table, particularly in the southern portion of the CFPD, they are poorly drained soils Note also, the drainage class cannot be derived from SHG data, but must be obtained from the SSURGO field called DRAINAGECL.<br><br>Links to the SSURGO and other pertinent information on soils can be found in the Citation List in Attachment E. | |

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| 3:13 | 3-20 | Fig. 3-10 | | | *Additional/updated information*.<br><br>For information: Updates including some changes to the Soil Hydrologic Group (SHG) classification are in the process of being posted to the SSURGO dataset based on new SHG methodology in the updated National Engineering Manual. The update process is not complete, creating a distinct boundary between Hardee and Manatee Counties caused by a lag for Polk and Hardee counties. The AEIS may want to acknowledge that the classifications presented in the document are undergoing active revision. | App. E, 17 |
| 3:14 | 3-21 | 13 | | Insert the following after the sentence ending on Line 13:<br><br>"**There is no land designated as Prime Farmland in the Central Florida Phosphate District.**" | *Suggested clarification.* | |
| 3:15 | 3-21 | 15 | | Insert the following text after the sentence ending on Line 15:<br><br>**Hillsborough County has designated nearly 76 percent of the county in the CFPD as unique farmland representing most of the upland acreage. Manatee County designated 68 percent of the soils in the CFPD as unique farmland. Immediately east, neither Polk, Hardee or to the south Sarasota counties, have designated any unique farmland in the CFPD. This is significant when** | *Additional/updated information*.<br><br>Farmland classification information is available as a GIS dataset in the SSURGO dataset under the field heading FRMLNDCL.<br><br>Links to the SSURGO can be found in the Citation List in Attachment E. | |

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| | | | | **comparing the dominant soil maps units between counties. Myakka fine sand is the dominant unique farmland soil map unit in the Hillsborough County portion of the CFPD and comprises 23 percent of the entire county. Myakka fine sand and very similar soils (same drainage class, same soil order) are the dominant unique farmland map units in the Manatee County portion of the CFPD and comprise 31 percent of the entire county. Myakka fine sand and similar poorly drained spodosols comprise over 40 percent of the soils in Hardee County and yet there are no unique farmland map units in the county. Soils in the CFPD designated as unique farmland range from very poorly drained organic soils with water tables above the surface to xeric soils that do not have seasonal high saturation within 72 inches of the soil surface. Consequently, the Unique Farmland designation is not so much a "Soil" designation, but more of a political designation, see the Figure following this comment.[3] The map qualitatively depicts the percent of unique farmland in the CFPD for each county, and illustrates the un-natural boundary (the county line) showing that it's more of a political artifact of the** | | |

[3] This reference is to the Mosaic-generated figure that follows on the page immediately after this comment.

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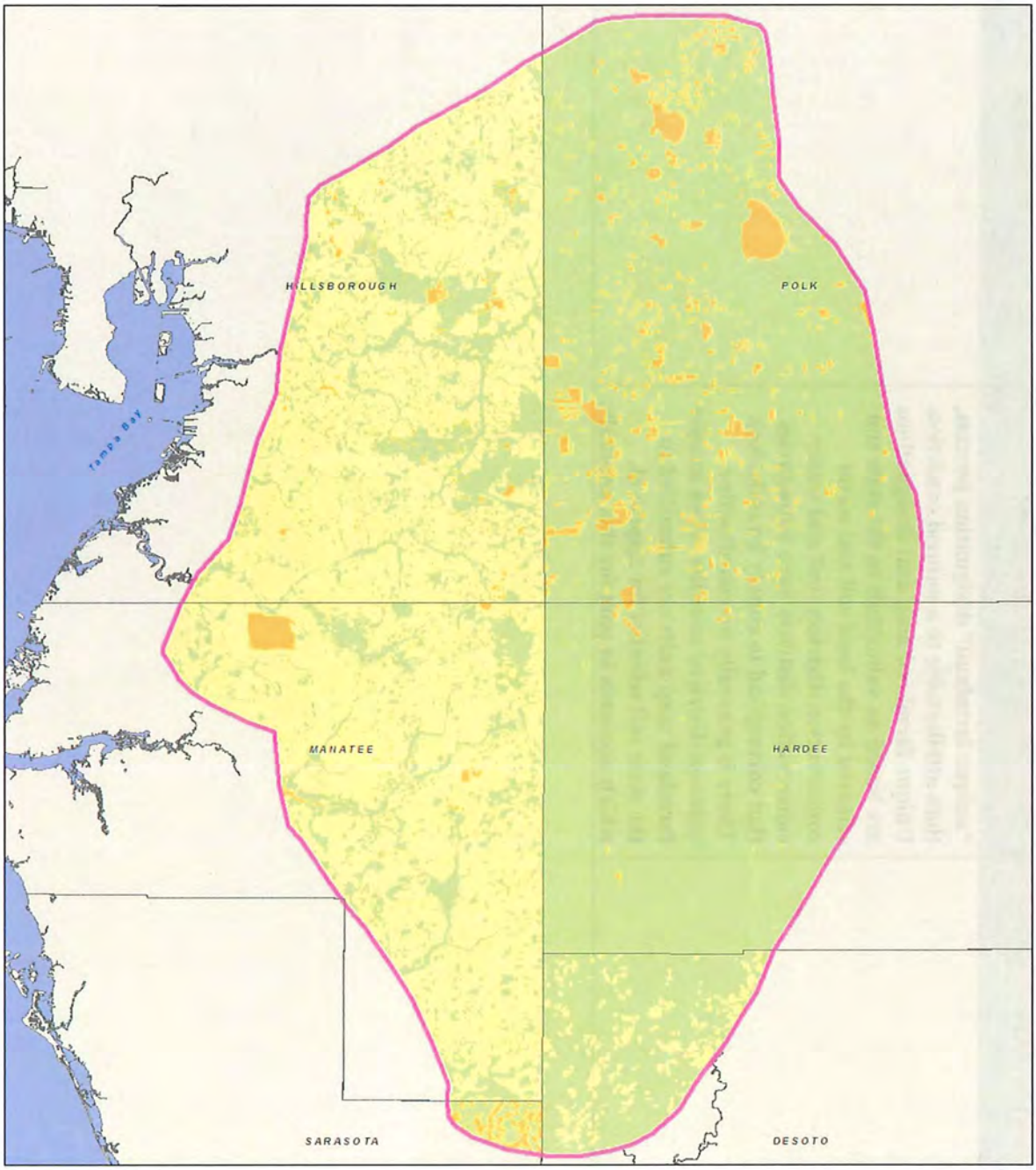
| | | | | **"unique farmland" designation process, than attributable to a natural condition. Unique farmland map unit designations are based on submittals to the state soil scientist by the local soil and water conservation districts (soil and water conservation districts have boundaries that correspond to county boundaries). There is generally no coordination between districts/ counties when unique farmland map units are submitted to the state soil scientist for approval, which accounts in part for this anomaly.** | | |

# CFPD Farmland Location Exhibit



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| 3:16 | 3-21 | 19-25 | "The American Farmland Trust (AFT) has identified high-quality farmland throughout the United States by combining the USDA's prime farmland designation with an AFT unique farmland definition. The AFT unique farmland definition varies slightly from the NRCS unique farmland definition to include land that has unique soil and climatic requirements and is used to grow vegetables, grapes and horticultural crops, including fruits, nuts and berries. To provide a relative measure of high-quality farmland by county, the AFT compares the areal extent of high-quality farmland in each county to the respective state average." | Suggest this text be deleted. | *Suggested clarification.*<br><br>The significance of this classification to the CFPD is not discussed nor is any AFT data provided in the DAEIS. No GIS data is available for download from AFT. The AFT definition of high-quality farmland incorporates NRCS farmland designation data, but places greater emphasis on climatic factors than soil factors and therefore all non-urban private land south of Interstate 4 is classified as high quality farmland by AFT. | |
| 3:17 | 3-22 to 3-25 | Tbl. 3-2 | | In accordance with the comment, we recommend that Table 3-2 be replaced with the revised Table 3-2 found on the page after this comment. | *Suggested clarification.*<br><br>With respect to the DAEIS Table 3-2 – instead of listing every map unit in every county of the CFPD, it would be more efficient and useful to only list the soil map units that are classified as Farmland of Unique Importance. It is understood that the other map units are not designated. Also note, the header of Table 3-2 in the DAEIS called soil order is not correct. The data presented is soil series, not soil order; however soil series are not designed as Prime or Unique Farmland. The field header called Taxonomic Class should more correctly be titled Taxonomic Great Group, but the field is of questionable usefulness as Prime or Unique farmland is | |

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| | | | | | not determined by taxonomic classification. The hydric rating is of limited usefulness, since both hydric and non-hydric soils can be classified as Farmland of Unique Importance – unless this is included for another unspecified reason. Drainage class is also not a determining factor for unique farmland classification, and could be removed unless included for another unspecified reason. Neither the Acreage nor the Percent of Total values are correct because the table references soil series, not soil map units. For example, the Myakka Series is a component of nine individual Myakka map units in the CFPD, however, only four Myakka map units are designated as unique farmland. Also the footnotes at the bottom of Table 3-2 are not entirely correct since they have no relationship to the unique farmland classification. | |

| Table 3-2. Soil Map Units Within the Central Florida Phosphate District Classified as Farmlands of Unique Importance | | | | |
|---|---|---|---|---|
| **Map Unit Name** | **Map Unit Symbol** | **County** | **Acres** | **Percent of Total** |
| GATOR MUCK, DEPRESSIONAL | 19 | De Soto | 341 | 0.0% |
| MYAKKA FINE SAND | 24 | De Soto | 6,116 | 0.5% |
| TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES | 37 | De Soto | 1,528 | 0.1% |
| VALKARIA FINE SAND | 40 | De Soto | 46 | 0.0% |
| ZOLFO FINE SAND | 42 | De Soto | 3,419 | 0.3% |
| CANDLER FINE SAND, 0 TO 5 PERCENT SLOPES | 7 | Hillsborough | 14,916 | 1.1% |
| FORT MEADE LOAMY FINE SAND, 0 TO 5 PERCENT SLOPES | 18 | Hillsborough | 7,028 | 0.5% |
| IMMOKALEE FINE SAND | 21 | Hillsborough | 9,785 | 0.7% |
| LAKE FINE SAND, 0 TO 5 PERCENT SLOPES | 25 | Hillsborough | 10,007 | 0.7% |
| MALABAR FINE SAND | 27 | Hillsborough | 7,509 | 0.6% |
| MYAKKA FINE SAND | 29 | Hillsborough | 66,218 | 4.9% |
| ONA FINE SAND | 33 | Hillsborough | 12,734 | 0.9% |
| POMELLO FINE SAND, 0 TO 5 PERCENT SLOPES | 41 | Hillsborough | 9,533 | 0.7% |
| ST. JOHNS FINE SAND | 46 | Hillsborough | 17,250 | 1.3% |
| SEFFNER FINE SAND | 47 | Hillsborough | 18,970 | 1.4% |
| WABASSO FINE SAND | 57 | Hillsborough | 813 | 0.1% |
| ZOLFO FINE SAND | 61 | Hillsborough | 24,484 | 1.8% |
| CASSIA FINE SAND | 11 | Manatee | 12,777 | 0.9% |
| DELRAY-POMONA COMPLEX | 18 | Manatee | 20,318 | 1.5% |
| EAUGALLIE FINE SAND | 20 | Manatee | 14,089 | 1.0% |
| MYAKKA FINE SAND, 0 TO 2 PERCENT SLOPES | 30 | Manatee | 56,923 | 4.2% |
| MYAKKA FINE SAND, 2 TO 5 PERCENT SLOPES | 31 | Manatee | 1,487 | 0.1% |
| POMELLO FINE SAND, 0 TO 2 PERCENT SLOPES | 42 | Manatee | 21,137 | 1.6% |
| WABASSO FINE SAND | 48 | Manatee | 2,369 | 0.2% |
| WAVELAND FINE SAND | 52 | Manatee | 55,680 | 4.1% |

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| **Section 3.3.2.1** | | | | | | |
| 3:18 | 3-35 | 6-8 | "If a given mine's operations are designed to maximize capture of rainfall and associated runoff in order to support the mine's water supply within the recirculation system, that portion of the mine's footprint within the ditch and berm system would be effectively removed from the applicable subbasin's watershed. The annual contribution of the mine to downstream flows would not necessarily be zero because at times, excess water accumulations within the recirculation system would occur resulting in off-mine discharges through the permitted NPDES outfalls." | "**Because a given mine's operations are designed to** capture rainfall and associated runoff in order to supplement the mine's water supply within the recirculation system, that portion of the mine's footprint within the ditch and berm system would be effectively removed from the applicable sub-basin's watershed, **with the exception of water released through NPDES outfalls and contributions from the ditch and berm system—in the form of groundwater recharge—that maintains groundwater contributions to adjacent wetlands and stream systems.**" | *Suggested clarification.*<br><br>The objective of mine water management is to retain only the quantity of water necessary to operate the recirculation system and because it does not acknowledge contributions from NPDES outfalls and groundwater recharge from the ditch and berm system.<br><br>See Attachment A for more information. | ES-28 |
| 3:19 | 3-36 | 15-16 | "• Natural variation in rainfall conditions because of the variable level of interactions between surface water and groundwater systems within the CFPD," | "• Natural variation in rainfall conditions," **[Delete remainder of the bullet point]** | *Technical correction.*<br>Rainfall has not been shown to be dependent on these variable levels of interactions. | |
| 3:20 | 3-45 | 9-10 | "In this manner, the excess surface waters could serve as a potential supplemental water supply to the mine perhaps allowing reduced reliance on Floridan Aquifer System withdrawals." | "In this manner, the excess surface waters could serve as a potential supplemental water supply to the mine, **assisting in ecological recovery of the swamp. It would not, however, be expected to change Mosaic's permitted quantities, although it could reduce the actual amount of pumped groundwater used in operations.**" | *Additional/updated information.*<br><br>Suggested revision more accurately reflects what may occur should Flatford Swamp water be delivered to Mosaic. | |
| 3:21 | 3-45 | 16-17 | "The Wingate East extension would potentially affect the upper watershed water balance." | "The Wingate East extension **could** potentially affect the upper watershed water balance." | *Suggested clarification.*<br><br>It is more accurate to say "could" than "would." | |

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| **Section 3.3.2.2** | | | | | | |
| 3:22 | 3-58 | 11-13 | "This has led to salt water intrusion into the FAS along the Gulf coast, and reversal of aquifer flow gradients in the Upper Peace River and adjacent watersheds leading to reduced groundwater contribution to river baseflows and areawide lake and wetland stages." | "This has led to salt water intrusion into the FAS along the Gulf coast, and reversal of aquifer flow gradients in the Upper Peace River **leading to reduced groundwater contribution to Peace River base flows and lowered lake and wetland stages in the upper Peace River watershed.**" | *Suggested clarification.*<br><br>Stream systems in the southern portion of the basin are highly confined and do not communicate with the UFAS as systems do in the northern portion of the District, and thus do not experience the same direct effects from UFAS groundwater pumping. | ES-22 |
| 3:23 | 3-58 | 30 | | Insert the following after the sentence ending on Line 30:<br><br>"**However, all of the proposed future mines, including the off-site alternatives, will be located in Hardee, DeSoto and Manatee Counties, where the IAS confining beds are thicker and less permeable.**" | *Additional/updated information*.<br><br>To provide context to the introductory discussion of the groundwater systems, it would be helpful to note that the proposed mines are located in areas where the IAS confining beds are relatively thick and less permeable. | |
| 3:24 | 3-60 | 6-14 | "Overburden stockpiled during the dragline operations is used to cover the sand filled cuts, but the soils placed do represent a modified surface substrate compared to that of an unmined land area. Reclamation of clay settling areas also seeks to cover the clay-filled area with overburden in order to re-create a surface similar to the un-mined soils. The reclamation efforts seek to establish a surficial soil horizon that emulates the characteristics of unmined lands. However, the relative success of these efforts has been long debated due to the concerns that the reclaimed land areas lead | "**Historically, overburden stockpiled during the dragline operations was used to provide a 1- to 3-foot cap over the backfilled sand tailings. It was thought the overburden created a superior growing medium. The merit of this practice has been debated, due to concern that it could cause over-compaction of surface soils, resulting in modified rainfall infiltration and runoff. Consequently, current reclamation practices utilize a thinner overburden cap that may be mixed into the sand tailings to enhance moisture holding capacity. The initiation of use of GPS** | *Technical correction*. | |

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| | | | to alterations in soil conditions leading to modified rainfall infiltration rates and runoff conditions that in the aggregate modify localized site water balance conditions. This issue is addressed further in Chapter 4." | **equipped bulldozers also helps reduce compaction as it allows the material to be placed on grade as construction progresses, preventing multiple trips by heavy equipment that contributed to over-compaction. Other cap material is also used, for example in wetlands, stockpiled muck may be used as a cap to provide a wetland seed bank, and for select upland habitats such as xeric, topsoil may be directly transferred from an unmined xeric area scheduled for mining to a planned reclaimed xeric site, both to replace the xeric soil characteristics as well as provide an upland seed bank. Clay settling areas, however, are not capped. Nonetheless, the clay is a productive soil, with both high moisture and nutrient holding capacity. With proper drainage, it is excellent for improved pastures or row crops. [*Citation*: "The Mined Lands Agriculture Research and Demonstration Project" – October 1996 Publication 03-093-128, Florida Institute of Phosphate Research, as prepared by the University of Florida and Institute of Food and Agricultural Services.] Due to desiccation cracking throughout the upper several feet of the clay, older reclaimed settling areas have both surface water and perched subsurface flow systems that facilitate surface and groundwater discharge into** | | |

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| | | | | **the surrounding watershed. [*Citation*: Murphy, Kathryn E., Mark C. Rains, Michael G. Kittridge, Mark T. Stewart and Mark A Ross (2008) Hydrology of Clay Settling Areas and Surrounding Landscapes in the Phosphate Mining District, Peninsular Florida, Journal of the American Water Resources Association (JAWEA) Vol. 44 No. 4].**" | | |
| 3:25 | 3-63 | 25-26 | "Kissengen Spring is now inactive; it stopped flowing in February 1940." | "Kissengen Spring is now inactive; it stopped flowing in February **1950.**" | *Technical correction*.<br><br>See *Polk Chronicles: Kissengen Spring Was Spot For Fun*, The Ledger (Aug. 23, 2011)[4]; SWFWMD Predicted Change in the Hydrologic Conditions Along the Upper Peace River due to a Reduction in Groundwater Withdrawals (July 2003); and in an older USGS report, H.M. Peek, "Cessation of flow of Kissengen Spring in Polk County, Florida," Water resource studies: Tallahassee, Florida Geological Survey Report of Investigations 7, p. 73-82 (1951). | |
| **Section 3.3.2.3** | | | | | | |
| 3:26 | 3-65 | 13-16 | "In contrast, Garlanger (2002) estimates that groundwater pumping supporting phosphate mining contributed less than 10 percent of the drawdown that occurred at a particular affected spring (Kissengen Springs) and that other man-made | "**In contrast to this historical pumping, SWFWMD's 2010 report of Groundwater Usage in the District shows that all withdrawals attributed to Mining, Industrial and Commercial Uses represent 10% of the total** | *Technical correction*.<br><br>To settle the perception of phosphate industry water use, the AEIS should cite the most recent (2010) SWFWMD Water Use Report denoting groundwater | |

[4] Available at http://www.theledger.com/article/20110823/COLUMNISTS/108235000?p=2&tc=pg&tc=ar.

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| | | | withdrawals contributed to the rest of the effect." | **withdrawals from the UFAS, with withdrawals associated with the phosphate industry having decreased to about 2% of the total withdrawals.**" | withdrawals in the District attributable to phosphate mining. | |
| 3:27 | 3-66 | 10-11 | "Groundwater withdrawal that occurred pre-1975 from which the underlying aquifers have not fully recovered." | "**The underlying aquifers have not fully recovered from groundwater withdrawals that occurred pre-1975, because as phosphate industry withdrawals declined, other withdrawals—such as agriculture and public supply—have increased, masking the aquifer recovery that otherwise would have occurred from reduced phosphate industry withdrawals.**" | *Additional/updated information*.<br><br>This revised statement is clearer and is consistent with Metz and Lewelling's statement on page 78 of their report: "The May 2007 potentiometric-surface map of the Upper Floridan aquifer indicates a rise in aquifer water levels from the 1975 levels, but levels remain as much as 30 ft below the Peace River floodplain elevation. Although groundwater levels have increased since the days when mining operations used more water, the levels have not fully recovered, because there has been a redistribution of some of the pumping stresses due to population growth and agricultural expansion in the Southern West-Central Florida Groundwater Basin." | |
| 3:28 | 3-67 | 33 | | Add the following at the end of the paragraph ending on line 33:<br><br>"**However, none of the proposed future mines, including the off-site alternatives, are located in the Charlie Creek watershed. The water levels in the IAS and FAS in the upper Horse Creek and upper Myakka watersheds are lower than the groundwater levels in the SAS and, consequently, upward flow from the IAS to the SAS is not a source of water for these stream systems.**" | *Suggested clarification.*<br><br>None of the proposed mines are within the Charlie Creek watershed. | |

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| 3:29 | 3-68 | 14 | | Add the following to the end of the paragraph ending on Line 14:<br><br>"**Contrary to the Bacchus *et al.* statements, however, karst features are only present in the upper Peace Basin in the vicinity of Bartow. Such karst geologic conditions do not exist at the Ona or DeSoto Mines in the Peace River Basin, nor in the vicinity of Wingate East in the upper Myakka Basin. Kiefer *et al* (2011). In addition, according to SWFWMD, see "Predicted Change in Hydrologic Conditions along the Upper Peace River Due to a Reduction in Groundwater Withdrawals (July 2003), pg. 15, karst features in the Upper Peace are located along the upper steam of the river between Bartow and Ft. Meade, whereas further to the south, the connection between the surface and IAS appears to be low. This has been confirmed through actual field investigations. If the conditions described by Bacchus *et al.* were correct, wetlands within a 2-mile radius of CF Industries mining should be adversely affected from mine dewatering, but UMAM scores provided in individual permit applications show many of these wetlands are in fact in good condition and not impacted as the Bacchus characterizations suggest. (Kiefer *et al,* 2011)**" | *Additional/updated information*.<br><br>As described more fully in Kiefer et al (2011), many of the conclusions in the Bacchus et al (2011) presentation are not considered to be correct. The text should acknowledge these differing views and recognize that Kiefer et al provides more reliable information. | |

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| **Section 3.3.2.4** | | | | | | |
| 3:30 | 3-69 | 22 | | Insert the following after the sentence ending on Line 22:<br><br>"**The topography, or land surface elevations, in the basins reclaimed using clay or sand-clay mixtures, however, are typically 5 to 10 feet higher than the original land surface elevations in these basins.**" | *Additional/updated information*.<br><br>Although the depth to the water table for basins reclaimed using clay or sand-clay mixtures is generally greater than in other basins, these areas are generally former CSAs that are also higher in elevation than the original land surface, and thus that is what would be expected. | |
| **Section 3.3.2.5** | | | | | | |
| 3:31 | 3-71 | 12 | | Add the following to the end of the paragraph ending on Line 12:<br>**The Table on the page following this comment, an excerpt from Attachment A[5] summarizes the NPDES discharge volumes for five of Mosaic's mines, including Four Corners and South Fort Meade. The volumes are reported as average daily flow in cfs, as well as total discharge in cfs/mi2 . (Note 1 cfs = 646,272 gallons per day). It should be noted that the total discharge in cfs/mi2 for the mines' discharge is comparable to the expected discharge from these mines assuming no surface water capture. [Citation: Garlanger, J., 2012, Surface Water Capture by Current and Proposed Phosphate Mines and Potential Impact to Streamflow Peace and Myakka River Watersheds (Attachment A)]** | *Additional/updated information*.<br><br>Provide data exemplifying the volume of water discharged from mine sites.<br><br>See Attachment A. | |

[5] This reference is to the Mosaic-generated table (labeled Table 3) that follows on the page immediately after this comment.

## Table 3
## Summary of Mosaic NPDES Discharges (2004 – 2011)

| Mine | Capture Area ($mi^2$) | Average NPDES Discharge (2004-2011), cfs | | | | | | Potential Streamflow Contribution (cfs) | Capture Percentage (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | Horse Creek | Peace River | Myakka River | Little Manatee River | Alafia River | Total | | |
| Hookers Prairie | 18 | | 3.9 | | | 6.5 | 10.4 | 15.6 | 18 |
| South Ft. Meade | 20 | | 7.8 | | | | 7.8 | 17.4 | 40 |
| Four Corners* | 62 | 9.6 | 16.6 | | 19.4 | 1.7 | 47.3 | 53.9 | (3) |
| Hopewell | 5 | | | | | 4.1 | 4.1 | 4.3 | (1) |
| Wingate | 4 | 3.2 | | 4.1 | | | 7.3 | 3.5 | (125) |
| Total | 119 | 12.8 | 28.2 | | 19.4 | 12.2 | 72.6 | 94.7 | 8 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| **Section 3.3.2.7** | | | | | | |
| 3:32 | 3-77 | 9-11 | "Thus, this area is taken out of a given watershed or subbasin's surface water contributions to the watershed or subbasin's water budget except as allowed through discharges from the permitted NPDES outfalls." | "Thus, this area is taken out of a given watershed or subbasin's surface water contribution to the watershed or subbasin's water budget; **however, discharges from the permitted NPDES outfalls and contributions from the ditch and berm system—in the form of groundwater recharge—maintain surface water and groundwater contributions to adjacent wetlands and stream systems.**" | *Technical correction*.<br><br>This statement omits water contributions resulting from groundwater recharge. | ES-23 |
| **Section 3.3.3.1** | | | | | | |
| 3:33 | 3-83 | 21-29 | | Add the following to the list on Lines 21-29:<br><br>• **Waters within the Little Manatee River State Recreation Area (Rule 62-302.700(9)(c)48 and 51, F.A.C.)**<br>• **Waters within the Myakka River State Park (Rule 62-302.700(9)(c)57, F.A.C.)**<br>• **Waters within the Paynes Creek State Historic Site (Rule 62-302.700(9)(d)11, F.A.C.)**<br>• **Waters within Beker Tracts (Rule 62-302.700(9)(f)4, F.A.C.)**<br>• **Hillsborough River – certain segments (Rule 62-302.700(9)(i)14, F.A.C.)**<br>• **Myakka River – certain segments (Rule 62-302.700(9)(i)22, F.A.C.)**<br>• **Little Manatee River – certain segments (Rule 62-302.700(9)(i)20, F.A.C.** | *Additional/updated information*.<br><br>This section lists water bodies within CFPD watersheds that are designated as Outstanding Florida Waters, but it is incomplete. We suggest deleting the bullet point reference to "Little Manatee River" on Line 23 because the entire river is not an OFA listing in Rule 62-302.700(9) and adding other relevant water bodies that are covered by the rule. | App. B, 3 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 3:34 | 3-86 | 3 | | Insert the following after the sentence ending on Line 3:<br><br>"**However, as noted in Section 4.12.2.2, the phosphate beneficiation process no longer uses ammonia nitrogen as a reagent, therefore, the current listing of Thirty Mile Creek may be attributed to past industry practices, not current practices. The data presented on Table 4-21 documents that water discharged from operating phosphate mines generally contains lower concentrations of nitrogen than is present in the receiving water bodies.**" | *Suggested clarification*.<br><br>Table 3-8 and the preceding description imply that current phosphate mining practices may be contributing to nitrogen levels in Thirty Mile Creek. As noted on Page 4-198, Lines 1-9, changes in beneficiation plant processes have reduced nitrogen discharges. | |
| 3:35 | 3-86, 3-87 | Tbl. 3-8, Fig. 3-34 | | Revise Table 3-8 and Figure 3-34 and add the following text immediately after Figure 3-34:<br><br>"**As shown on Table 3-8 and Figure 3-34, streams that drain the four proposed and two foreseeable mines have been determined by FDEP to be attaining their designated classifications, with the exception of the Peace River where fecal coliform impairs the use in segment 1623c between Joshua and Charlie Creeks. Based on these verified findings by FDEP, none of the four proposed or two foreseeable mines will be subject to TMDLs or BMAPs. None of the pending mines or extensions proposes to discharge directly to the Peace River.**" | *Suggested clarification*.<br><br>We recommend that Table 3-8 and Figure 3-34 be revised in the Final AEIS to list and illustrate the water bodies and basins that have been verified as impaired by FDEP, as well as the water bodies and basins that were determined by FDEP as not impaired. Doing so would support the analysis of water quality effects in Chapter 4. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 3:36 | 3-88 | 32-35 | "Analysis of water samples collected from streams during base-flow and high-flow conditions indicated the water chemistry of surface waters in the unmined and the reclaimed basins generally was similar. Higher concentrations of magnesium, orthophosphorus, alkalinity and calcium were detected in water from streams at some of the reclaimed basins." | "**The USGS study collected bi-monthly samples for ortho-phosphorus (OP) and alkalinity on four (4) reclaimed streams and three (3) unmined streams with less than 16 samples for each site. Two of the bi-monthly sampling of reclaimed sites—both CSAs—only provided discharge on two occasions. From this data, it was shown that while the water quality was generally similar, sometimes the swales draining CSA's exhibited higher concentrations of ortho-phosphorus than unmined streams, while sites reclaimed with overburden or sand tailings typically had lower overall concentrations than unmined streams. Although the sample size for calcium and magnesium was extremely small, making definitive comparisons questionable, the range of values for calcium and magnesium were generally similar for reclaimed and unmined sites, with one noted outlier. Alkalinity was highly variable in the reclaimed sites, ranging from similar to higher than unmined streams.**" | *Additional/updated information*. | |
| 3:37 | 3-90 | 25 | | Add a citation to the text and a reference to Chapter 7. | *Correction to reference/citation*.<br><br>There is a citation to "(PBSJ, 2009)" but this source is not included in the list of references in Chapter 7. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 3:38 | 3-90 | 35 | | Insert the following after the sentence ending on Line 35:<br><br>"**Much of this can be attributed to the significant reduction of urban wastewater treatment plant discharges from the Peace River during this period of time.**" | *Additional/updated information*.<br><br>The discussion in this paragraph does not reference the primary reason for the drop in phosphorous concentration in Peace River during this time. | |
| 3:39 | 3-93 | 7-11 | "However, if these deliberations reach resolution prior to the completion of this AEIS, further consideration of the alternatives under AEIS review will need to address these new regulatory requirements, and even in advance of administrative resolution, some projections of likely new regulatory requirements and how they may affect future review of proposed new phosphate mining projects is warranted." | Replace text with the following:<br><br>"**Despite on-going deliberations, it should be noted that the applicants' existing NPDES permits already contain specific conditions limiting the concentrations of nitrogen and phosphorus in any water discharged as well as "target values" for nitrogen and phosphorus loadings that will apply until a Load Allocation is issued under the TMDL program or the NNC. Therefore, FDEP has already begun implementation of substantially similar nutrients controls in the CFPD in advance of establishment of TMDLs and the NNC.**" | *Additional/updated information*.<br><br>The discussion of future water quality effects does not mention the comprehensive regulatory structure in place to maintain surface water quality. | 4-124; App. B, 33 |
| **Section 3.3.4.2** | | | | | | |
| 3:40 | 3-103 | 21 | | Add the following after the sentence ending on Line 32:<br><br>"**Of the 17 tributaries to the Peace River in the study, seven drain substantial phosphate mining areas. All of the sites draining such mining areas achieved** | *Additional/updated information*.<br><br>Additional information from the FDEP (2009) report is relevant. | App. B, 25 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| | | | | **Healthy SCI scores. Three of the 10 tributary sites draining non-mining areas failed to achieve Healthy designations. The average SCI score on the mining sites was 59, while the average score from streams draining unmined basins was 50. This strongly suggests that current mining and reclamation practices are protective of the hydrology and water quality factors necessary to support viable stream communities. As an example, most of Payne Creek's 121 square mile watershed has been mined and reclaimed subsequent to passage of the Clean Water Act and Mandatory Reclamation Rule and this system scores quite high with Healthy SCI values ranging from 60 to 65 during the 2008 study.**" (FDEP, 2008) | | |
| **Section 3.3.4.3** | | | | | | |
| 3:41 | 3-105 | 20 | "In fact, it is one of the largest and most productive estuaries in Florida (FDEP, 2011)." | "In fact**, <u>despite continuous phosphate mining in the CFPD for over 100 years according to FDEP it remains</u>** one of the largest and most productive estuaries in Florida (FDEP, 2011)." | *Suggested clarification.*<br><br>Mosaic believes it is important to acknowledge the fact that over 100 years of phosphate mining in the CFPD has not diminished the Charlotte Harbor estuarine system's status as one of the state's most productive estuaries. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| **Section 3.3.5** | | | | | | |
| 3:42 | 3-108 | 1-9 | | Insert after sentence ending on Line 3:<br><br>"**This SWFWMD 2009 land use coverage does not reflect completed reclamation, by virtue of its designation of active and reclaimed phosphate mining areas as "Extractive".** | *Suggested clarification.*<br><br>The National Land Cover Database is a better GIS coverage for mined/ reclaimed portions of the CFPD. See Comment 2:9 for more explanation. | 2-22 |
| **Section 3.3.6** | | | | | | |
| 3:43 | 3-108 | 18-20 | "Other land uses which are known to provide value as wildlife habitat include rangelands and uplands which, in the FLUCCS system, include the following Level 1 Codes: Rangeland (Level 1 Code 3000) and Upland Forests (Level 1 Code 4000)." | "Other land uses which are known to provide value as wildlife habitat include rangelands and uplands which, in the FLUCFCS system, include the following Level 1 Codes: Rangeland (Level 1 Code 3000), Upland Forests (Level 1 Code 4000), **and even Agricultural Pasture Lands (Level 1 Code 2000).**" | *Additional/updated information.*<br><br>It is important to recognize that agricultural lands are important habitat cover types for some species, such as caracaras and burrowing owls. | |
| **Section 3.3.6.1** | | | | | | |
| 3:44 | 3-116 | 36 | | Add the following to the end of the paragraph ending on Line 36:<br><br>"**Recently, the USFWS determined that the gopher tortoise (*Gopherus polyphemus*) was warranted but precluded from listing as a threatened species in the eastern portion of its range, including Florida (76 Fed. Reg. 45130 (July 27, 2011)), and that a petition to list the Eastern diamondback rattlesnake (*Crotalus adamanteus*) presented information to indicate that listing of this species may be warranted (77 Fed. Reg. 27403 (Mar. 10, 2012)). Both of these species have consistently been observed within the CFPD during past surveys.**" | *Additional/updated information.*<br><br>In accordance with 50 C.F.R. § 402.12, it is important to make note of species that have been proposed for listing that may be present in the study area, to be comprehensive. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| **Section 3.3.6.2** | | | | | | |
| 3:45 | 3-118 | 22 | | Add this reference to Chapter 7. | *Correction to reference/citation.*<br><br>There is a citation to Mushinsky, McCoy, and Kluson (1996) but this source is not included in the list of references in Chapter 7. | |
| 3:46 | 3-118 | 22-23 | "Mushinsky, McCoy, and Kluson (1996) compared small vertebrate communities…." | "Mushinsky, McCoy, and Kluson (1996) **and Mushinsky, McCoy, and Kluson (2001)** compared small vertebrate communities . . . ." | *Correction to reference/citation.*<br><br>The existing text cites Mushinsky, McCoy, and Kluson (1996), but Mushinsky, McCoy, and Kluson (2001) provides relevant support and should be cited as well. | |
| 3:47 | 3-118 | 33-33 | | Add this reference to Chapter 7. | *Correction to reference/citation.*<br><br>There is a citation to Mushinsky, McCoy, and Kluson (2001) but this source is not included in the list of references in Chapter 7. | |
| **Section 3.3.7** | | | | | | |
| 3:48 | 3-123 | 21-23 | "Industry contributions to parks and recreational facility development have occurred, and it continues to seek opportunities to support community service and environmental education programs." | "Industry contributions to parks and recreational facility development have occurred, and it continues to seek opportunities to support community service and environmental education programs. **For example, Mosaic** | *Additional/updated information.*<br><br>See "Mosaic's Inaugural Online Grant Round Makes Florida a Priority" (May 2012)[6] for Mosaic's contributions and the "Examples of Civic Organizations which | |

[6] Available at http://mosaicfla.com/media/9361/mos-0401-community_investment_fact_sheet_final.pdf.

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| | | | | **contributed $8.4 million to local community groups in 2012, including Hardee County Family YMCA, Prevent Blindness Florida, and DeSoto Memorial Hospital Foundation. Recent activities by Mosaic include the construction of a fire station and 75-acre community park in Manatee County and making a three-year commitment to Feeding America Tampa Bay's Home Runs for Food partnership**." | Mosaic Partners with Throughout Our Operating Areas". | |
| **Section 3.3.7.7** | | | | | | |
| 3:49 | 3-149 | 24-25 | "In the context of this AEIS, human exposure to radiation occurs primarily because the physical and chemical processes that originally formed phosphate in significant quantities also formed uranium." | "In the context of this AEIS, human exposure to radiation occurs primarily because the physical and chemical processes **during periods of dramatic sea level changes formed marine deposits that contained both phosphate and uranium. As a result, the two substances may be found together.**" | *Technical correction*.<br><br>Uranium and phosphate are formed in different processes; uranium is an element and is not formed by geophysical processes. In contrast, phosphate is an inorganic chemical composed of phosphorus and oxygen. | |
| 3:50 | 3-149 | 32-34 | "Florida topsoil exhibits activities of 1-2 pCi/g of uranium-232 in equilibrium with radium-226, but activities up to 10 pCi/g have been documented in topsoil over undisturbed phosphate deposits (Birky, 2011)." | "Florida topsoil generally exhibits activities of 1-2 pCi/g of uranium-232 in equilibrium with radium-226, but activities up to 10 pCi/g **have been documented in** topsoil over undisturbed phosphate deposits (Birky, 2011)." | *Suggested clarification*.<br><br>Activities of 1-2 pCi/g are common range, not an absolute value. | |
| 3:51 | 3-150 | 4-5 | "Normally Occurring Radioactive Materials (NORM)" | "**Naturally** Occurring Radioactive Materials (NORM)" | *Typographical error*.<br><br>NORM stands for "**Naturally** Occurring Radioactive Materials." | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 3:52 | 3-150 | 14-15 | "NCRP (2009) estimated that man made sources of radiation accounted for a further 310 mrem/yr, bringing the total annual dose to about 510 mrem/yr." | "NCRP (2009) estimated that manmade sources of radiation accounted for a further 310 mrem/yr, bringing the total annual dose in Florida to about 510 mrem/yr **(versus average total dose of 620 mrem/yr for the U.S. as a whole ).**" | *Suggested clarification*.<br><br>Stating annual dose in Florida versus U.S. provides a helpful comparison. | |
| 3:53 | 3-150 | 20 | Technically Enhanced Naturally Occurring Radioactive Material (TENORM) | **Technologically** Enhanced Naturally Occurring Radioactive Materials (TENORM) | *Typographical error*.<br><br>TENORM stands for "**Technologically** Enhanced Naturally Occurring Radioactive Materials." | |
| 3:54 | 3-151 | 5-6 | "Although USEPA predicted no concentrations in Florida counties over the recommended action level of 4 pCi/L, it is noted that in some areas, such concentrations have been documented." | "Although USEPA predicted no concentrations in Florida counties **were expected to be** over the recommended action level of 4 pCi/L, some instances of such concentrations have been documented." | *Suggested clarification*. | |
| 3:55 | 3-152 | 9-14 | "Additionally, these researchers concluded that the difference in radium-226 activities between mined and unmined lands is 5 pCi/g." | "Additionally, these researchers concluded that the difference in radium-226 activities between mined and unmined lands is **about** 5 pCi/g. **Background and post reclamation readings however, represent a range of conditions, with some pre-mining areas in the phosphate district being naturally much higher than 1-2 pCi/g, and some post reclamation readings exceeding 5 pCi/g above background, but readings within "5 pCi/g above background" are the norm.** " | *Suggested clarification*.<br><br>It is important to communicate that there is considerable variation in both pre- and post-mined radium values and that the 1-2 pCi/g range represents an average value, whereas the 20 to 45 pCi/g values are outlier, individual data points. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 3:56 | 3-153 | 4 | | Add the following after the sentence ending on Line 4:<br><br>"**In addition, the Agency for Toxic Substance and Disease Registry (ATSDR) has established a Minimal Risk Level (MRL) of 100 mrem/year above background for exposure to ionizing radiation. [Citation ATSDR, (2006) Agency for Toxic Substance and Disease Registry. ATSDR's Concept Paper on Evaluating Radiological Data from EPA's Florida Phosphate Mining Initiative.]**" | *Suggested clarification*.<br><br>This additional information helps put EPS's maximum recommended annual dose in context. | |
| **Section 3.3.7.8** | | | | | | |
| 3:57 | 3-155 | 16-33 | | Delete "Two" from the beginning of Line 16 and add the following bullet points after paragraph ending on Line 33:<br><br>• **Edward Medard Park: This park is a former non-mandatory phosphate mine that is currently owned and managed by Hillsborough County and SWFWMD. This recreational park consists of 1,284 acres with a water control structure and reservoir that is available for canoeing, boating and catch and release fishing. It also provides flood protection along the Alafia River. This area is further described at the Hillsborough** | *Additional/updated information*.<br><br>It would be helpful information to the reader to provide additional examples mine reclamation efforts. | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| | | | | **County website: www.hillsboroughcounty.org/facilities**<br><br>• **Alafia River State Park: This state park in Hillsborough County is owned by the State of Florida and managed by the Florida Park Service. It consists of over 6,000 acres of both mandatory and non-mandatory phosphate mined lands that offers challenging off-road bicycling trails as well as equestrian and hiking trails. The park also offers picnic pavilions, a playground, horseshoe pit, volleyball court, and a full-facility campground for both primitive and RV camping. This area is further described at the Florida Park Service website: www.floridastateparks.org/alafiariver** | | |

## DETAILED COMMENTS ON THE DAEIS – MOSAIC FERTILIZER, LLC

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| **Chapter Four** | | | | | | |
| **Section 4.2.1** | | | | | | |
| 4:1 | 4-3 | 3 | | Add the following to the end of the paragraph ending on Line 3:<br><br>"**These databases provide information on listed species locations and habitat conservation priorities that address the USFWS comments identified in Chapter 3.3.6.1. above. The potential impact of mining on protected species will also be considered on a project by project basis. Ensuring each project adequately protects species and habitats, is a more meaningful way to evaluate such wildlife impacts.**" | *Additional/updated information*.<br><br>It is noted on Page 3-115, Line 30, that the U.S. Fish and Wildlife Service's scoping comments stated that impacts to certain listed species should be considered in the AEIS. This reference to the listed species databases is needed for response completeness. | |
| **Section 4.2.1.1** | | | | | | |
| 4:2 | 4-3 | 31 | | Add this reference to Chapter 7. | *Correction to reference/citation*.<br><br>There is a citation to "(FFWCC, 2009)" but this source is not included in the list of references in Chapter 7. | |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

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| **Section 4.2.1.2** | | | | | | |
| 4:3 | 4-5 | 16-18 | "Taking the highest five values, 6 through 10, the areal coverage of this Example Alternative that has high IWHRS scores would be 21.5%." | The 21.5% figure is incorrect; it should be **27.2%**. | *Typographical error*. | |
| 4:4 | 4-8 | 18 | | At the end of Section 4.2.1.2, create a new section—**4.2.1.3 Limitations of the CLIP and IWHRS Screening Tools**—and add the following two paragraphs:<br><br>**Despite the use of CLIP and IWHRS as the best available data in an effort to determine, compare and contrast the overall ecological quality of proposed and alternative sites, it should be noted that both CLIP and IWHRS are based on large-scale remote sensing data consistent with 1:24,000 to 1:100,000 map scale resolution derived from a number of sources. While such data is sufficient for initial statewide screening of candidate Florida Forever acquisitions, it is not appropriate for use in high-accuracy mapping applications. Further, the CLIP tutorial states: "CLIP priorities represent important ecological stewardship opportunities for Florida but are not intended as an additional encumbrance on landowners other than such protections as may already be offered by federal, state or local laws," and that "the CLIP analysis, maps and data were developed for state and regional conservation planning purposes and not intended, nor sufficient, to be the basis for local government comprehensive** | *Suggested clarification*.<br><br>Both CLIP and IWHRS recommend acknowledgement of their limitations in the event of use, particularly for uses for which they were not originally designed.<br><br>Oetting, Jon, Tom Hoctor Beth Stys, Critical Lands and Waters Identification Project (CLIP): Version 2.0 Technical Report, January 2012. | |

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| | | | | **plans, environmental resource or agency permitting decisions." Similarly, IWHRS states that it is intended to be used as a guide, and on-site surveys, literature reviews, and coordination with FWC biologists in documenting the presence or absence of imperiled species within the proposed project area, with the express disclaimer: "Be sure to check the status of all lands prior to making any decision based on the information contained in the IWHRS".**<br><br>**For these reasons, reliance on the site-specific on-site wildlife utilization, habitat, and land cover data submitted by the applicants will take primacy over regional data when evaluating on-site avoidance and minimization alternatives. The CLIP and IWHRS should be considered only as a general guide to be superseded by site-specific analysis.** | | |
| **Section 4.2.2** | | | | | | |
| 4:5 | 4-9 | 2-3 | "The environmental consequences of phosphate mining on groundwater could happen to the surficial, intermediate, or Floridan aquifers." | "**For a groundwater resource evaluation, the potential environmental consequences from phosphate mining must examine potential impacts to the surficial, intermediate, and Floridan aquifers. See also discussion of aquifer systems in Section 3.3.2.2.**" | *Additional/updated information*. | |
| 4:6 | 4-9 | 3-5 | "Use of the Floridan aquifer system (FAS) as an industrial water supply by phosphate mines was identified as a particular issue of concern during the scoping process, as stated above." | "Use of the Floridan aquifer system (FAS) as **a mining** water supply by phosphate mines was identified as a particular issue of concern during the scoping process, as stated above." | *Technical correction*.<br><br>SWFWMD has a separate category for mining water use. | ES-3; 3-5; 4-75; App. D, 1 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| 4:7 | 4-9 | 14-17 | "The model was based on the Southwest Florida Water Management District (SWFWMD) District-Wide Regulatory Model Version 2 (DWRM2), which is a MODFLOW model (Harbaugh et al., 2000) used by the SWFWMD to conduct groundwater resource evaluations . . . ." | "The model was based on the Southwest Florida Water Management District (SWFWMD) District-Wide Regulatory Model **Version 2.1** (DWRM2) which is a MODFLOW model (Harbaugh, etal., 2000) used by the SWFWMD to conduct groundwater resource evaluations . . ." | *Typographical error*.<br><br>The correct version of the District-Wide Regulatory Model is **Version 2.1** (not Version 2). | App. D, 1 |
| 4:8 | 4-9 | 27-28 | "Ona would require new water supply wells and an allocation from the FAS." | "Ona would require new water supply wells **to be installed in accordance with the already permitted allocation from the FAS."** | *Technical correction*.<br><br>Ona will utilize withdrawals that have already been permitted. | ES-22; 4-12; 4-82; App. D, 30 |
| **Section 4.2.2.1** | | | | | | |
| 4:9 | 4-12 | 3-5 | "The DeSoto and Ona projects are new mines with discrete predicted start and stop points in time; their indicated water supply allocations represent new FAS withdrawal allocations compared to the 2010 baseline conditions." | "**Although the Desoto and Ona projects are new mines, the operations plan calls for phosphate rock production at the Ona Mine to replace that of the existing Four Corners Mine, with expected nominal overlap of operations during the period when one facility is mining out/ closing down and the other is starting up. Therefore, their indicated water supply allocations do not represent a net increase in total authorized FAS withdrawals or impacts compared to the 2010 baseline condition. The Desoto Mine will utilize existing FAS withdrawal allocations from the inactive Fort Green Mine drawing water from existing wells on the former Fort Green Mine site. FAS withdrawal allocations for the Ona Mine are already authorized as part of Mosaic's SWFWMD WUP permit, but will involve the installation and use of new wells at the Ona site in association with decreases in pumped quantities elsewhere.**" | *Suggested clarification*. | ES-5; ES-7; ES-22; 1-17; 4-9; 4-82; App. D, 30 |

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| **Section 4.2.2.2** | | | | | | |
| 4:10 | 4-14 | 14-16 | "Phosphate mines in the past decade have used substantially less than their annual average water supply allocations authorized under WUPs because of modified water management practices including a greater reliance on surface waters contained within their recirculation systems." | "Phosphate mines in the past decade have used substantially less than their annual average water supply allocations authorized under **their** WUPs. **In part, this is because the WUP allocation is based on a 1 in 5 year drought condition, which increases dependency on deep well use for make-up water, but is also due to improved water conservation practices by phosphate mines that reflect a greater reliance on surface water from the recirculation system. FAS water use has also declined due to the industry's adaptation to allow substantial use of recycled water in the flotation process (versus former reliance on deep well water)."** | *Additional/updated information.*<br><br>There are a variety of reasons why actual pumping rates have been less than permitted rates. Some additional detail would provide clarification. | |
| 4:11 | 4-15 | 16-19 | "In the Southern Water Use Caution Area (SWUCA) recovery strategy, SWFWMD capped current FAS allocations for all users at 650 million gallons per day (mgd), and also set a goal of reducing this total to 600 mgd by the year 2025. To reach that goal, the water management district's strategy calls for a reduction in groundwater use by agriculture of 50 mgd between 2005 and 2025 (SWFWMD, 2006)." | "In the Southern Water Use Caution Area (SWUCA) recovery strategy, SWFWMD **recognizes that "annual withdrawals from the Florida aquifer need to be reduced by 50 mgd [from 650 to 600 mgd] to ensure that the salt water intrusion minimum aquifer level is met." However, "if withdrawals were optimally distributed (i.e., declines in the most impacted areas and increases in the least impacted areas) a reduction of significantly less than 50 mgd would be required." Nonetheless, for the DWRM2 model, a 50 mgd reduction of agricultural groundwater use was used, with all other users capped at their current levels. It should be noted, that in the same report, SWFWMD recognizes that reductions in phosphate industry groundwater quantities have played an important role in SWUCA** | *Suggested clarification*.<br><br>These sentences do not adequately characterize the SWUCA recovery strategy. We suggest revising this text more closely track the language used by SWFWMD. | 4-82 |

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| | | | | **recovery stating: "Average daily use of groundwater associated with mining and processing of phosphate ore in the SWUCA has declined from over 300 mgd in the mid-1970's to less than 75 mgd in recent years."** (SWFWMD, 2006). | | |
| **Section 4.2.3** | | | | | | |
| 4:12 | 4-17 | 16-17 | "The fourth proposed mine (Wingate East) is located in the Upper Myakka River subbasin of the Myakka River watershed." | "The fourth proposed mine (Wingate East)**, a mine extension, is primarily located in the Upper Myakka River Watershed, with about 10% of the area in the Peace River Watershed.**" | *Technical correction.*<br><br>As is demonstrated by, for example, Figure 2 of DAEIS Appendix E, a portion of the northeast corner of the mine is located in the Peace River Watershed. | ES-26; 4-92 |
| 4:13 | 4-20 | 4-6 | "Following capture, the water is used and reused to support these conveyance functions. Therefore, on a long term basis, there tends to be less runoff from active mines to downstream water bodies." | "Following capture, **a portion of this** water is used and reused to support these conveyance functions. Therefore, **over a long term average,** there tends to be less runoff from active mines to downstream water bodies. **The magnitude of the decrease may be constrained by the available storage capacity in the recirculation system at the onset of rainfall events. NPDES discharges for Mosaic's active mines, see Table following this comment and Attachment A[3], demonstrates that surface water capture varies from 0 to 40%.**" | *Additional/updated information.*<br><br>See Attachment A. | |

[3] This reference is to the Mosaic-generated table (labeled Table 3) submitted as part of Attachment A and reproduced on the following page.

## Table 3
## Summary of Mosaic NPDES Discharges (2004 – 2011)

| Mine | Capture Area ($mi^2$) | Average NPDES Discharge (2004-2011), cfs | | | | | | Potential Streamflow Contribution (cfs) | Capture Percentage (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | Horse Creek | Peace River | Myakka River | Little Manatee River | Alafia River | Total | | |
| Hookers Prairie | 18 | | 3.9 | | | 6.5 | 10.4 | 15.6 | 18 |
| South Ft. Meade | 20 | | 7.8 | | | | 7.8 | 17.4 | 40 |
| Four Corners* | 62 | 9.6 | 16.6 | | 19.4 | 1.7 | 47.3 | 53.9 | (3) |
| Hopewell | 5 | | | | | 4.1 | 4.1 | 4.3 | (1) |
| Wingate | 4 | 3.2 | | 4.1 | | | 7.3 | 3.5 | (125) |
| Total | 119 | 12.8 | 28.2 | | 19.4 | 12.2 | 72.6 | 94.7 | 8 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| **Section 4.2.3.1** | | | | | | |
| 4:14 | 4-23 | 8-15 | "For the runoff evaluations for the four proposed mines, it was assumed that 100 percent of the stormwater on the actively mined areas was captured and incorporated into the mine recirculation system's waters. In actual operations, there are times when the recirculation system's capacity to store water is exceeded, resulting in offsite discharges to surface waters through the outfalls permitted under the NPDES elements of the applicable industrial wastewater permits. The capture area analyses ignored the fact that at times some of the water captured in the active mine areas is still delivered downstream. This was considered a method to conservatively estimate the worst-case impact of the proposed mines on downstream water quantity contributions." | "For the runoff evaluations for the proposed mines, it was assumed that **50% of the streamflow contribution from** the actively mined areas was captured and incorporated into the mine recirculation system's waters. **This percentage of captured streamflow is conservative based on actual NPDES data for active mines, see table on the prior page, which shows a maximum capture of 40%. This capture takes into consideration the storage capacity in the recirculation system during certain rainfall periods as well as the maintenance of seepage base flow contributions to stream flow from perimeter recharge systems.**" | *Technical correction.*<br><br>As substantiated by Dr. Garlanger in Attachment A and as reflected in Table 3-6, it not accurate and overly conservative to assume that 100% of the stormwater on actively mined areas is captured and incorporated into the mine recirculation system. | |
| **Section 4.2.4.2** | | | | | | |
| 4:15 | 4-26 | 28-29 | | See ECONorthwest supplemental information, Attachment D. | *Additional/updated information.*<br><br>With respect to phosphate value, see paragraph 4 in Attachment D. | App. F, 8 |
| 4:16 | 4-27 | 1-3 | "The cost of constructing a new beneficiation plant was estimated at $1 billion (based on information from the Applicants) and will be constructed over a 10 year period (average of $100 million per year)." | "The cost of **design and construction of** a new beneficiation plant **and associated infrastructure needed for new mine start-up,** was estimated at $1 billion (based on **pre-engineering design** information from the Applicants) and will be **designed and constructed over an approximately 54-month period."** | *Technical correction.*<br><br>The assumption that plants will be constructed over a 10-year period is not correct. | App. F, 8 |
| 4:17 | 4-27 | 22-23 | "Hamilton County phosphate production was assumed to be 6.15 million tonnes annually, which is their average annual | "Hamilton County phosphate production was assumed to be **2.79 million tonnes, or 3.07 million tons, as an annual average** | *Technical correction.*<br><br>PCS Phosphate is the only active operator | App. F, 9 |

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| | | | level of production over the last 7 years." | **production level over the last 3 years.**" | in Hamilton County. The seven-year average production capacity may be misleading because one of the two mines operating in Hamilton County has been depleted and closed, with only the Swift Mine currently operating. Over the seven year period between 2005 through 2011, the PCS Swift Creek Mine in Hamilton County averaged 2.79 million tonnes of production. See, Potash Corporation of Saskatchewan Inc., Annual Report (Form 10-K), at 7 (Feb. 27, 2012). | |
| **Section 4.3.1** | | | | | | |
| 4:18 | 4-29 | Tbl. 4-5 | Notes:<br>a=For Mosaic projects, production rates estimated at 85% of estimated mining capacity; for CF Industries projects, estimated mining capacity is shown. | Update Table 4-5 to reflect the most recent information. See comment.<br><br>**[Delete a=For Mosaic projects, production rates estimated at 85% of estimated mining capacity]**<br><br>**[Delete Note d.]** | *Additional/updated information.*<br><br>The best source for annual rock production and operational capacity is Mosaic's most recent Form 10-K, which was filed on July 17, 2012.[4] Using this data, the "Estimated Annual Rock Production" and converting it from metric tons to short tons, for Mosaic's operating mines should be as follows: Four Corners/ Lonesome–7.4 million tonnes (8.2 million tons (Mt)); Hooker's Prairie– 2.1 million tonnes (2.3 Mt); South Fort Meade–5.0 million tonnes (5.5* Mt); Wingate Creek 1.4 million tonnes (1.5 Mt.)[5] * Note: The annual | ES-7; 1-12; 1-19 |

[4] Available at http://www.sec.gov/Archives/edgar/data/1285785/000119312512304472/d356870d10k.htm.

[5] The 10-K lists annual operational capacity and annual production in metric tonnes. This comment reflects those numbers converted to short tons. To convert from the metric tonnes in the 10-k to short tons, multiply the metric tonnes by a factor of 1.1.

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| | | | | | report lists South Fort Meade at 1.2 million tonnes (1.3 Mt) for the past year due to slow-downs attributed to litigation, however, it is expected to produce 5.0 million tonnes (5.5 Mt) with normal operation. [6] .[7]<br>The assertion that production is limited by clay content is incorrect Accordingly, note d is not accurate. | |
| **Section 4.3.2** | | | | | | |
| 4:19 | 4-30 | Tbl. 4-6 | | Correct the table. | *Technical correction*.<br><br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | |
| 4:20 | 4-31 | Tbl. 4-7 & 4-8 | | Correct the tables. | *Technical correction*.<br><br>Several of the figures in these tables are incorrect. See acres and linear feet tables in Attachment F. | |
| **Section 4.3.2.1** | | | | | | |
| 4:21 | 4-32 | 4-5 | "Areas identified in the applicable 404 permit application as proposed to be mined include 205 acres of non-jurisdictional waters of the US." | "Areas identified in the applicable 404 permit application as proposed to be mined include **115 acres** of non-jurisdictional waters**." [delete "of the US"]** | *Technical correction*.<br><br>If waters are non-jurisdictional, they are not waters of the U.S. | |

[6] Available at http://www.sec.gov/Archives/edgar/data/1285785/000119312512304472/d356870d10k.htm.

[7] The 10-K lists annual operational capacity and annual production in metric tonnes. This comment reflects those numbers converted to short tons. To convert from the metric tonnes in the 10-K to short tons, multiply the metric tonnes by a factor of 1.1.

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 4:22 | 4-35 | 10-12 | "Indirect impacts of this alternative will include the general impacts on adjacent habitats as a result of movement into these areas of displaced wildlife from site clearing and operations. There is potential for downstream impacts from construction and operational activities in and around streams." | "**A minor indirect impact of this alternative could be the movement of wildlife onto adjacent lands or into preservation areas as portions of the site are cleared for mining. This dynamic would later reverse itself as reclamation follows mining and habitats become available on reclaimed lands. Installation and proper management of industry-standard BMP ditch-and-berm systems will diminish the likelihood of downstream indirect impacts both to water quality and flow when mining occurs around stream systems.**" | *Suggested clarification*.<br><br>Actual conditions would be more understandable with these clarifications: (1) that wildlife impacts are temporary and/or minor and (2) that the ditch-and-berm system will diminish potential impacts to downstream water quality and quantity. | |
| **Section 4.3.2.2** | | | | | | |
| 4:23 | 4-35 | 14-15 | "The permit application indicates a plan to directly impact approximately 5,389 acres of jurisdictional wetlands, and 208,366 linear feet of stream." | "The permit application indicates a plan to directly impact approximately **4,615.1** acres of jurisdictional wetlands, and **136,731** linear feet of stream." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |
| 4:24 | 4-35 | 17-18 | "The Ona site includes portions of four named streams, Horse Creek, West Fork of Horse Creek, Brushy Creek, and Oak Creek." | "The Ona site includes portions of **five** named streams: Horse Creek, West Fork of Horse Creek, Brushy Creek, Oak Creek, **and Hickory Creek.**" | The statement omits Hickory Creek from listed of streams found at Ona. | |
| **Section 4.3.2.3** | | | | | | |
| 4:25 | 4-38 | 12-14 | "The mine plan contained in the CWA Section 404 permit application included direct impacts on approximately 9719 acres of jurisdictional wetlands, and 27,014 linear feet of stream. An additional 53 acres of non-jurisdictional waters of the US would also be mined." | "The mine plan contained in the CWA Section 404 permit application included direct impacts on approximately **778** acres of jurisdictional wetlands, and 27,014 linear feet of stream. An additional **53.5** acres of non-jurisdictional waters **are also proposed to be mined.**" **[delete "of the US"]** | *Technical correction*.<br><br>If waters are non-jurisdictional, they are not waters of the U.S.<br><br>See acres and linear feet tables in Attachment F. | |

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| 4:26 | 4-38 | 15-17 | "Wingate Creek is located in the southern portion of the site and West Fork Horse Creek is located in the northeastern portion of the site." | "**The Myakka River crosses the southernmost end** of the site and West Fork Horse Creek is located in the northeastern portion of the site." | *Technical correction*.<br><br>Wingate Creek does not flow through Wingate East, but the headwaters of the Myakka River crosses the south end of the site. | |
| **Section 4.3.3.1** | | | | | | |
| 4:27 | 4-45 | 5-7 | "Because of the Manatee County ordinance prohibiting mining of county lands within the Peace River Watershed, some portion of this acreage ultimately may need to be excluded from consideration. This was not done for the preliminary screening of information summarized below." | "**The Manatee County ordinance contains a rebuttable presumption against mining land that is both within Manatee County and within the Peace River Watershed. For this preliminary screening and analysis document, however, a conservative assumption was made to include this acreage, for screening purposes as summarized below.**" | *Suggested clarification*.<br><br>Manatee County Code of Ordinances § 2-20-7 allows mining in the Peace River Watershed if "an applicant demonstrates, with competent and substantial evidence, that such mining activities will not cause a degradation of water quality and will not cause adverse impacts on water quantity within the affected watershed." | |
| **Section 4.3.3.3** | | | | | | |
| 4:28 | 4-51 | 17-18 | "Much of the eastern portion of the site is targeted for FFBOT acquisition and the eastern portion of the site is also bordered by offsite lands targeted for FFBOT acquisition." | "Much of the **western** portion of the site is targeted for FFBOT acquisition and the **western** portion of the site is also bordered by offsite lands targeted for FFBOT acquisition." | *Technical correction*.<br><br>See Figure 4-18. | |
| **Section 4.3.4.12** | | | | | | |
| 4:29 | 4-60 | 32-33 | "Portions of Elder Branch, Cypress Branch, and Horse Creek (above Bushy Creek) are present within the site boundaries." | "**Portions of Elder Branch, Cypress Branch, and Horse Creek (**above **Brushy** Creek) are present within the site boundaries." | *Typographical error*. | |

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| **Section 4.4.1** | | | | | | |
| 4:30 | 4-65 to 4-69 | Fig. 4-20 to 4-23 | | Revise legend for figures to replace "Drawdown Contour Lines" with "**Water Level Contours**." | *Suggested clarification*.<br><br>The legend of these figures (and all other simulated groundwater level tables) identifies contour lines as "Drawdown Contour Lines." These labels are potentially misleading because most of the modeling figures indicate recovery or rebound of groundwater levels. We suggest that the label be changed to "Water Level Contours" on all relevant figures. We also suggest that the Most Impact Area (MIA) be included on all contour figures. The MIA is important since it is discussed in several places within the document, such as sections 3.3.7.6, 4.4.1, and 4.12.2.2. | Figs. ES-5; ES-6; 4-28; 4-29; 4-63 to 4-78 |
| **Section 4.4.2.1** | | | | | | |
| 4:31 | 4-75 | 8-9 | ". . . Mosaic has outlined its plans for obtaining industrial water supply to augment its recirculation system on an as needed basis." | ". . . Mosaic has outlined its plans for obtaining **mining** water supply to augment its recirculation system on an as needed basis." | *Technical correction*.<br><br>SWFWMD has a separate category for mining water use. | ES-3; 3-5; 4-9; App. D, 1 |
| 4:32 | 4-76 | Fig. 4-28 | | Revise legend for figures to replace "Drawdown Contour Lines" with "**Water Level Contours**." | *Suggested clarification*.<br><br>See Comment 4:30 [two up]. | Figs. ES-5; ES-6; 4-28; 4-29; 4-63 to 4-78 |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| 4:33 | 4-77 | 3-7 | "On this basis, the effects of the Desoto Mine's use of FAS water for recirculation system augmentation are anticipated to be primarily limited to an area in the vicinity of the wellfield, with relatively small effects predicted. As shown in Figure 4-28, the predicted spatial zone of influence out to the 0.5 foot contour of change in FAS water level would not affect any of the Ridge Lake or SWIMAL ROMP wells, and would only marginally affect the Peace River Basin ROMP wells." | "On this basis, the effects of the DeSoto Mine's use of FAS water for recirculation system augmentation are anticipated to be primarily limited to an area in the vicinity of the wellfield, with relatively small effects predicted. **The commencement of mining activities at the DeSoto mine will generally coincide with the mine-out of the South Fort Meade facility. The corresponding shift in pumpage from the production wells at South Fort Meade to wells at the Fort Green site results in increases in FAS water levels along the eastern boundary of the CFPD and thus improvements in FAS water levels in the Ridge Lake and Peace River ROMP wells. In addition, the shift in usage from South Fort Meade to Fort Green wells results in a decrease of approximately 2.3 mgd, which can be expected to marginally benefit water levels at the SWIMAL ROMP sites**." | *Suggested clarification*.<br><br>Explain how pumping shifts, rather than increases, as mining activities advance from one mine to another. | |
| **Section 4.4.2.3** | | | | | | |
| 4:34 | 4-78 | Fig. 4-29 | | Revise legend for figures to replace "Drawdown Contour Lines" with "**Water Level Contours**." | *Suggested clarification*.<br><br>See Comment 4:30. | Figs. ES-5; ES-6; 4-28; 4-29; 4-63 to 4-78 |

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| **Section 4.4.3.3** | | | | | | |
| 4:35 | 4-82 | 6-8 | "However, because of the SWFWMD SWUCA recovery strategy, no new FAS allocations are likely to be granted unless an alternative phosphate mine FAS allocation were given up as an offset to the new allocation site." | "**However, new FAS allocations will only be allowed if found to be consistent with the regulatory component of the SWUCA Recovery plan.**" | *Suggested clarification*.<br><br>New groundwater quantities can still be permitted or self-relocated today so long as proposed withdrawals are consistent with SWUCA rules. | ES-22, 4-9, 4-12, App. D, 30 |
| **Section 4.5.2.1** | | | | | | |
| 4:36 | 4-86 | 15 | | Add the following after the sentence ending on Line 15:<br><br>"**It should be noted that a decrease in average annual streamflow does not correlate to a decrease in low flows. Capture of rainfall in the mine recirculation systems occurs during significant rainfall events and would be expected to decrease high flows, not low flows. Further, groundwater outflow from the perimeter recharge systems, supplemented if necessary with discharges from the NPDES outfalls, would be expected to maintain sufficient flow to meet MFL criteria for Horse Creek.**" | *Technical correction*.<br><br>See Attachment A. | |
| 4:37 | 4-87 | 12-13 | "This corresponds to a decrease in flow of approximately 11 cfs, or 6 percent." | "This corresponds to a decrease in flow of approximately 11 cfs, or **5.4** percent**.**" | *Typographical error*. | |

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| **Section 4.5.2.2** | | | | | | |
| 4:38 | 4-89 | 16 | | Insert the following as a new paragraph after the paragraph ending on Line 16:<br><br>"**This independent analysis is generally comparable to Table 11 in the Ona Mine application which indicates disturbed and unreclaimed lands would increase from 2,125 acres in mine year two to a peak of 11,969 acres in mine year 27, which is projected to occur in 2045. Thereafter, the rate of reclamation is projected to exceed the rate of mining, with all reclamation projected to be completed by mine year 45, or 2060.**" | *Suggested clarification*.<br><br>See also, Figures 2 and 3 in Attachment A, note underlying data files for Attachment A are included on the enclosed CD | |
| 4:39 | 4-90 | 12-16 | "The largest influence on average annual flow from the Horse Creek subwatershed during average rainfall conditions was predicted in 2040, when Horse Creek may have an average annual flow of approximately 203 cfs without the Ona Mine and approximately 187 cfs with the Ona Mine. This maximum reduction corresponds to a decrease in flow of approximately 16 cfs, or 8.5 percent." | "The largest influence on annual average flow from the Horse Creek subwatershed during average rainfall conditions was predicted in 2040, when Horse Creek may have an average annual flow of approximately 203 cfs without the Ona Mine, and **approximately 192.5 cfs with the Ona Mine. This maximum reduction corresponds to a decrease in flow of approximately 10.5 cfs, or 5.2 percent.**" | *Technical correction*.<br><br>Figure 4-39 and the calculations should be revised to reflect the maximum capture area in the Horse Creek basin. See Attachment A. | |
| **Section 4.5.2.3** | | | | | | |
| 4:40 | 4-92 | 3 | "The Wingate East Mine is located entirely in the Upper Myakka River subwatershed." | "**Except for a small portion in the northeastern corner,** the Wingate East Mine is located entirely in the Upper Myakka River subwatershed." | *Technical correction*.<br><br>The statement omits the fact that the northeast corner of Wingate East is located within the Peace River basin. | ES-26; 4-17 |
| 4:41 | 4-92 | 6-7 | "The Wingate East Mine application describes mining to continue for the first 26 years . . . ." | "The Wingate East Mine application describes mining to continue for the first **28 years** . . ." | *Technical correction*.<br><br>See page 1-110 of the Wingate East application. | |

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| 4:42 | 4-92 | 8 | | Insert the following after the sentence ending on Line 8:<br><br>"**This independent analysis is generally comparable to Table 11 in the Wingate East application which indicates disturbed and unreclaimed lands would increase from 111 acres in 2020 to a peak of 1,653 acres in 2037. Thereafter, between 1,138 and 1,418 acres are projected between 2041 and 2054, after which all land is projected to be reclaimed.**" | *Suggested clarification*.<br><br>Figure 4-42 and the calculations should be revised to reflect that the maximum capture area. See also Attachment A. | |
| **Section 4.5.3.1** | | | | | | |
| 4:43 | 4-96 | 12-14 | "The Desoto Mine CSAs are assumed to have capacity to manage most of the remaining percentage of phosphatic clays beneficiated at the Desoto plant. The mine was laid out to have the following acres which represent representative percentages of the total mine acres as current phosphate mines in the CFPD:" | "**Due to the use of Stage Filling (alternating filling and resting cycles in CSAs for maximum clay storage) the settling areas constructed for the DeSoto Mine may have some capacity to hold clay resulting from mining in the DeSoto County portion of the DeSoto Mine Extension, however, due to Manatee, Hillsborough and Hardee County requiring a clay balance between the counties (i.e., each county does not want to accept more tons of clay than was mined from that county) additional clay settling areas will be needed in Manatee County to handle the DeSoto Mine Extension mining that occurs in Manatee County. Nonetheless, for this review, the mine was laid out to have the following acres, which are representative percentages of the total mine acres comparable to current phosphate mines in the CFPD:**" | *Suggested clarification*.<br><br>Actual operating conditions would be more understandable with this clarification. | |

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| **Section 4.6.1** | | | | | | |
| 4:44 | 4-103 | 19-28 | | The discussion in 4.6.1 relating to urban and agricultural land use changes would be refined by citing to the Charlotte Harbor Seven-County Watershed Report, see citation in comment column | *Additional/updated information*.<br><br>Please also consider the Charlotte Harbor Seven-County Watershed Report (CHNEP 2011).[8] This report provides a general summary of water quality issues in the Charlotte Harbor watershed, and states that "The biggest per-acre sources of nitrogen pollution are failed septic tanks, feedlots, commercial property and row crops." In addition Harper (1994) reviewed numerous studies of runoff in Florida and provided recommended loading rates for stormwater planning and design. Those rates indicate that, in many cases, residential, commercial, industrial, highway and agricultural land uses yield elevated nutrient loadings per acre, as well as elevated loadings of BOD and total suspended solids. Harper points out that his loading rates generally do not include reductions in pollutants that may be achieved through stormwater treatment technology and BMPs. These reports suggest that continued agriculture, along with urbanization and other associated development in the CFPD have the potential to have the most significance with respect to impact on water quality but | |

[8] Available at http://www.chnep.wateratlas.usf.edu/upload/documents/2011WatershedReport.pdf.

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| | | | | | that all such land use impacts can be reduced through the use of surface water management technologies. [Citation: Harper, H.H. 1994 "Stormwater Loading Rate Parameters for Central and South Florida" Revised. Environmental Research & Design, Inc., Orlando, Florida.]. | |
| 4:45 | 4-104 | Tbl. 4-18 | | The following should be added: (i) Alternative 3 – Ona: Add "**Myakka**" to Watershed column and "**Upper Myakka**" to the Subwatershed column; and (ii) Alternative 4 – Wingate East: Add "**Peace**" to Watershed column and "**Horse Creek**" to Subwatershed column. | *Technical correction*.<br><br>A small portion of Ona is in the Myakka River watershed and a small portion of Wingate East is in the Peace River watershed. | ES-26; 1-17; 4-17 |
| **Section 4.6.2.1** | | | | | | |
| 4:46 | 4-108 | Tbl. 4-20 | Table 4-20. Phosphate Mine Discharge Mean Water Quality Values for Selected Inactive Mosaic and CF Industries Mine NPDES Outfalls | Table 4-20 "Phosphate Mine Discharge Mean Water Quality Values for Selected Inactive Mosaic Mine NPDES Outfalls." [Delete CF Industries] | *Technical correction*.<br><br>The two inactive mines detailed in this table, Fort Green and Kingsford, were both Mosaic mines; no CF Industries sites are included | |
| 4:47 | 4-107 to 4-111 | Tbl. 4-19 to 4-26 | Mine Discharge - Mean Water Quality Value tables: Table 4-19 thru Table 4-26 | Table 4-19 on page 4-107 lists average data by outfall, with, for example, a column for FCO Outfall 001 and a column for FCO Outfall 002 for the period 2005 through 2010.<br><br>Table 4-21 on pg 4-108 and Table 4-22 on pg 4-109 list the same data for the same time frame, except they contain the data for one outfall per table. Consequently, | *Technical correction*.<br><br>Discrepancies in values between the two tables need to be checked, because they should be the same. If they aren't supposed to be the same, otherwise an explanation is needed.<br><br>Note: There also appears to be a rounding error in some of the values, as the values | App B pg 23; Tbl ES-12 |

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| | | | | the data in Table 4-22 should correspond to the data in the FCO 002 column in Table 4-19, but they don't match, *i.e.,*<br><br>Outfall FCO 002<br><br>Tbl 19 Tbl 22<br>pH no discrepancy<br>Specific Conductance 653 670<br>Turbidity 7.0 5.29<br>Dissolved Oxygen 7.8 7.5<br>Total Phosphorus no discrepancy<br>Total Nitrogen 0.93 1.03<br>Chlorophyll-a 14.8 16.45<br><br>Similar discrepancies exist for the other outfalls/tables: see, Tables 19 thru 26.<br><br>Table 4-19 is the same as Tables 4 in Appendix B and Table ES-12 in the Executive Summary.<br><br>Mosaic has included a copy of the NPDES Outfall data on the attached CD. | in Tables 4-19 thru 4-26 in Chapter 4, may be off by a tenth with respect to the values in Tables 4 thru 11 in Appendix B. | |
| 4:48 | 4-112 | 15-16 | "The upstream station (HCSW1) is located just under 8 miles downstream of the nearest phosphate mine outfall." | "The upstream station (HCSW1) is located just under 8 miles downstream of the nearest phosphate mine outfall **(Fort Green Outfall 004).**" | *Suggested clarification*.<br><br>Identify the outfall under discussion. | |
| 4:49 | 4-112 | 19 & 22 | "Station HSCW2 fairly consistently . . . The third monitoring location, HSCW3 . . ." | "Station **HCSW2** fairly consistently . . . . The third monitoring location **HCSW3**. . ." | *Typographical error*. | |

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| 4:50 | 4-117 | 22 | | Insert the following after the sentence ending Line 22:<br><br>"**It should be noted, however, that even though SCI scores were reported for Wingate outfalls, outfall D002 did not meet the requisite flow requirements for valid SCI scoring, which is reflected in the test notation stating that there was no flow. For valid SCI tests, per the FDEP SCI SOP, the stream must discharge for 180 consecutive days and must fall within a range of acceptable velocities for 28 consecutive days prior to testing. With no flow, Outfall D002 did not meet this criterion. It is recognized that low-order, non-perennial streams that undergo SCI scoring outside those parameters can give a false indication of impairment.**" | *Suggested clarification*.<br><br>The limited test data for the Wingate outfall may have given a false indication of impairment, but the text does not acknowledge this. | |
| **Section 4.6.5** | | | | | | |
| 4:51 | 4-124 | 16 | | Insert the following as a new Paragraph after Line 16:<br><br>"**In addition, it should be noted that the applicants' existing NPDES permits already contain specific conditions limiting the concentrations of nitrogen and phosphorus in any water discharged as well as "target values" for nitrogen and phosphorus loadings that will apply until a Load Allocation is issued under the TMDL or the NNC programs. Thus, FDEP has in effect already begun implementation of substantially similar nutrients controls in the CFPD in advance of establishment of TMDLs and the NNC.**" | *Suggested clarification*.<br><br>See Comment 3:39. | 3-93; App. B, 33 |

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| **Section 4.7.1.3** | | | | | | |
| 4:52 | 4-127 | 12-16 | "Appendix A presents the average annual direct, indirect, induced and total employment, labor income, value added, and output metrics . . . ." | "**Appendix F** presents the average annual direct, indirect, induced and total employment, labor income, value added and output metrics . . ." | *Typographical error*. | |
| **Section 4.7.2** | | | | | | |
| 4:53 | 4-130 | 13-14 | ". . . and the conceptual reclamation schedules were used to predict when reclaimed mine blocks could reasonably be expected to again become available to support agricultural production of some form." | Review of Section 4.7 and comparing Appendix F, Table 6 (Page 11) versus Table 11 (Page 14) and other similar tables, it does not appear the economic analysis took into consideration the value of agriculture on reclaimed land and appeared to overstate the value of agricultural use on pre-mining land. | *Technical correction*.<br><br>See ECONorthwest supplemental information in Attachment D. | Sec 4.7; App. F, 11 |
| **Section 4.7.3** | | | | | | |
| 4:54 | 4-136 | 9 | | Add the following after the sentence ending on Line 9:<br><br>"**These economic effects, like other effects of future mines however, are addressed as part of the cumulative impacts in Chapter 4, Section 4.12, because they are expected to occur as the future mines supplement or replace production from the mine sites addressed in the four pending applications.**" | *Suggested clarification*.<br><br>Section 4.7.3 treats the Pine Level/Keys Mine and the Pioneer Mine as alternatives to the Wingate East, Ona, and South Pasture Extension Mines, and conducts the analysis with the assumption that the permits for Wingate East, Ona and the South Pasture Extension would not be issued. This may be confusing since the future mines are not substitutes for planned mines but are more accurately viewed as cumulative impacts. This is acknowledged in part in the current text at Lines 6-9. | Sec. 2.2.3. 3 |

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| | | | | Section 4.8 | | |
| 4:55 | 4-139 | | | | *Suggested clarification.*<br><br>General comment regarding the cultural and historic resource summary on Page 4-139 and associated tables: It seems disconnected from cultural and historic resource section 3.3.7.9, Page 3-156 to 3-157, Table 3-22. No change may be necessary, but please review. | |
| **Section 4.9** | | | | | | |
| 4:56 | 4-150 | 12 | | Add the following to the end of the paragraph ending on Line 12:<br><br>"**The objective of this review is to determine if any environmental justice communities are located within the potentially affected area and, if so, determine whether the proposed projects or alternatives will have a disproportionately high and adverse human health or environmental impact on those communities.**" | *Suggested clarification.*<br><br>It could be useful to state the standard by which EJ impacts are measured. | |
| 4:57 | 4-151 | Tbl. 4-53 | Row # 2 States that DeSoto Mine is in Hardee County. | The County column for Alternative 2 should be changed to "**DeSoto**."<br><br>Also correct the values in the mine size column. | *Technical correction.*<br><br>The row for Alternative 2 erroneously indicates that the DeSoto Mine is in Hardee County.<br><br>Also, several of the mine sizes in this table are incorrect. See acres and linear feet tables in Attachment F. | |

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| 4:58 | 4-151 | Tbl. 4-53 | | Add note (b) to Table 4-53:<br><br>"**Tract 970300, BG 5 contains the Hardee Correctional Institute, a men's prison with a capacity of 1,500 inmates, which substantially alters the demographic profile of this block group.**" | *Suggested clarification*.<br><br>Hardee County Tract 970300 Block Group 5 is identified as having a high minority population, but the census data appears to be heavily influenced by the presence of the Hardee Correctional Institute (men's prison with a capacity of 1500 inmates[9]) in the block group. The census block (5039) that includes the prison accounts for 90% (336 of 375) of the African American population and 78% (582 of 749) of the Hispanic population of Block Group 5. | |
| 4:59 | 4-152 | 1-4 | "Table 4-54 summarizes the screening information presented in Table 4-53, showing the alternatives in the study area where the population meets the criteria for a minority or low-income population, and indicates how much of the block group falls within the boundaries of the applicable proposed new mine or alternative site." | "Table 4-54 summarizes the screening information presented in Table 4-53, showing the alternatives in the study area where the population **may meet** the criteria for a minority or low-income population, and indicates how much of the block group falls within the boundaries of the applicable proposed new mine or alternative site." | *Suggested clarification*.<br><br>It is not clear that there actually are EJ communities in the areas identified in the DAEIS. The minority population appears to be attributable to a prison located in Hardee County Tract 970300 Block Group 5. There is some debate as to whether prison populations should be included in EJ analyses, and, as a practical matter, the environmental and economic issues affecting incarcerated populations are quite distinct from its surrounding community. The low-income population determination is questionable given that it is unclear that recent American Community Survey income data is available for the block group at issue. | |

[9] *See* Fla. Dep't of Corrections, Hardee Correctional Institute, http://www.dc.state.fl.us/facilities/region4/501.html.

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION | COMMENT | CROSS REF. |
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| | | | | | Accordingly, the conclusions about the presence of an EJ community near proposed mine sites should, at the very least, be qualified to acknowledge this uncertainty. | |
| 4:60 | 4-152 | Tbl. 4-54 | | Correct the mine size column. | *Technical correction*.<br><br>Several of the acreages in this table are incorrect. Please see Attachment F. | |
| 4:61 | 4-152 | 7-9 | "This environmental justice screening review has identified minority and low income populations at two of the currently proposed phosphate mine projects (Ona Mine and South Pasture Mine Extension) and at one of the possible future alternative sites (where no mining activity is currently proposed)." | "This environmental justice screening review has identified **possible** minority and low income populations at two of the currently proposed phosphate mine projects (Ona Mine and South Pasture Mine Extension) and at one of the possible future alternative sites (where no mining activity is currently proposed)." | *Suggested clarification*.<br><br>See Comment at pg 4-151 & 152 regarding the uncertainty of the data. | |
| **Section 4.10** | | | | | | |
| 4:62 | 4-156 to 4-160 | Tbl. 4-55 to 4-61 | | | *Technical correction*.<br><br>Several of the acreages in these tables are incorrect—namely in the "Total Mineable Acres" columns. | Tbl. ES-5 to ES-11 |
| 4:63 | 4-158 | 12-13 | "For this evaluation, wetlands with WRAP and UMAM scores of 0.7 or higher were considered as being of high quality. The WRAP and UMAM mapping provided in the mine applications was used to evaluate the extent to which high-quality wetlands would be avoided under the Prioritized Ecological Resources and Streams categories as used above (Subalternatives A and B)." | "**Although for permit application review, a simplistic "one size fits all" approach is not appropriate due to the many facets and factors considered in developing the least environmentally damaging practicable alternative,** for this evaluation **exercise only,** wetlands with WRAP and UMAM scores of 0.7 or higher were considered high quality. The WRAP and UMAM mapping provided in | *Suggested clarification*.<br><br>Many of the facts are considered on a site by site basis. Factors that the USACE will likely consider in its review of site-specific avoidance and minimization alternatives will include the size of the native land cover area (*i.e*., patch size); the degree to which each native land cover area is connected to existing or potential wildlife | |

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| | | | | the mine applications was used to evaluate the extent to which high-quality wetlands would be avoided under the Prioritized Ecological Resources and Streams categories as used above (Subalternatives A and B)." | corridors; the degree to which each area has been altered directly or indirectly by historical anthropogenic activities; the degree to which the area is connect to, or abuts development such as highways, railroads, and electrical transmission line corridors; the degree to which each wetland encumbers the ability to construct clay settling areas (which goes to practicability); etc. | |
| 4:64 | 4-160 | 3-4 | "Figures depicting the 1,500, 3,000, and 6,000 buffers as described for each of these four proposed new mines are provided in Appendix A." | "Figures depicting the 1,500, 3,000, and 6,000 buffers as described for each of these four proposed **mine applications** are provided in **Attachment F**." | *Technical correction*.<br><br>Not all four mine applications are proposed new mines, two are mine extensions. | |
| **Section 4.10.1** | | | | | | |
| 4:65 | 4-160 to 4-163 | | Pg 4-160 Line 9: 71,060 tonnes<br>Line 10: 90,663 tonnes<br>Line 11: 100,062 tonnes<br>Line 19: 98,690 tonnes<br>Pg 4-161 Line 4: 54,083 & 100,936 tonnes<br>Line 10: 54,915 tonnes<br>Line 15: 161,174 tonnes<br>Line 16: 174,654 tonnes<br>Line 17: 175,582 tonnes<br>Line 23: 53,620 tonnes<br>Line 24: 111,285 tonnes<br>Line 25: 172,439 tonnes<br>Pg 4-161 Line 3: 108,964 tonnes<br>Line 8: 32,729 tonnes<br>Line 9: 35,750 tonnes | Pg 4-160 Line 9: **71.060** million tonnes<br>Line 10: **90.663** million tonnes<br>Line 11: **100.062** million tonnes<br>Line 19: **98.690** million tonnes<br>Pg 4-161 Line 4: **54.083 & 100.936** million tonnes<br>Line 10: **54.915** million tonnes<br>Line 15: **161.174** million tonnes<br>Line 16: **174.654** million tonnes<br>Line 17: **175.582** million tonnes<br>Line 23: **53.620** million tonnes<br>Line 24: **111.285** million tonnes<br>Line 25: **172.439** million tonnes<br>Pg 4-161 Line 3: **108.964** million tonnes<br>Line 8: **32.729** million tonnes<br>Line 9: **35.750** million tonnes | *Typographical error*.<br><br>All tonnages on these pages are off by a factor of 1,000. Should double check calculations and input data to ensure you're working in metric tonnes versus short tons. | |

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| | | | Line 10: 35,826 tonnes<br>Line 16: 13,257 tonnes<br>Line 18: 25,461 tonnes<br>Line 19: 33,697 tonnes<br>Line 26: 35,825 tonnes<br>Line 32: 766 tonnes<br>Pg 4-163 Line 5: 39,052 tonnes<br>Line 7: 42,880 tonnes<br>Line 8: 45,300 tonnes<br>Line 14: 21,622 tonnes<br>Line 16: 34,467 & 42,173 tonnes<br>Lines 23: 26,587 & 42,996 tonnes | Line 10: **35.826** million tonnes<br>Line 16: **13.257** million tonnes<br>Line 18: **25.461** million tonnes<br>Line 19: **33.697** million tonnes<br>Line 26: **35.825** million tonnes<br>Line 32: **766,000** tonnes<br>Pg 4-163 Line 5: **39.052** million tonnes<br>Line 7: **42.880** million tonnes<br>Line 8: **45,300** tonnes<br>Line 14: **21,622** tonnes<br>Line 16: **34,467 & 42,173** tonnes<br>Lines 23: **26,587 & 42,996** tonnes | | |
| **Section 4.10.1.1** | | | | | | |
| 4:66 | 4-160 | 7-9 | "As indicated in Table 4-55, with this sub-alternative for the Desoto mine, a setback of 1,500 feet from Priority 1 and 2 CLIP areas reduces the overall 17,245-acre area available for mining to 5,098 acres, with approximately 71,060 tonnes of rock not mined." | "As indicated in Table 4-55, with this sub-alternative for the Desoto mine, a setback of 1,500 feet from Priority 1 and 2 CLIP areas reduces the overall **17,260**-acre area available for mining to 5,098 acres, with approximately **71.060 million tonnes** of rock not mined." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |
| **Section 4.10.1.2** | | | | | | |
| 4:67 | 4-160 | 16-18 | "As indicated in Table 4-56, the reductions from the 17,245-acre mineable area with mining avoided at set distances from perennial streams would be to 11,553 acres for a 1,500 foot buffer, to 5,399 acres for the 3,000 foot buffer, and to 555 acres for the 6,000 foot buffer." | "As indicated in Table 4-56, the reductions from the **17,260**-acre mineable area with mining avoided at set distances from perennial streams would be to 11,553 acres for a 1,500 foot buffer, to 5,399 acres for the 3,000 foot buffer, and to 555 acres for the 6,000 foot buffer." | *Technical correction*.<br><br>See acres and linear feet tables in Attachment F. | |

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| **Section 4.10.2.1** | | | | | | |
| 4:68 | 4-161 | 13-15 | As indicated in Table 4-55, the effect of this subalternative on the proposed Ona Mine is a reduction of area for mining from 21,180 acres to 1,738 acres for a 1,500 foot buffer with the quantity of rock unmined of approximately 161,174 tonnes. | "As indicated in Table 4-55, the effect of this sub-alternative on the proposed Ona Mine is a reduction of area for mining from **20,863** acres to 1,738 acres for a 1,500 foot buffer with the quantity of rock unmined of approximately **161.174** million tonnes." | *Technical correction.*<br><br>See acres and linear feet tables in Attachment F. | |
| **Section 4.10.2.2** | | | | | | |
| 4:69 | 4-161 | 21-23 | "As indicated in Table 4-56, the effect of this sub-alternative on the proposed Ona Mine for perennial streams is a reduction of area for mining from 21,180 acres to 14,712 acres for a conceptual 1,500 foot setback and reduction of rock of approximately 53,620 tonnes;" | "As indicated in Table 4-56, the effect of this sub-alternative on the proposed Ona Mine for perennial streams is a reduction of area for mining from **20,863** acres to 14,712 acres for a conceptual 1,500 foot setback and reduction of rock of approximately **53.620 million tonnes;**" | *Technical correction.*<br><br>See Attachment F. | |
| **Section 4.10.3.1** | | | | | | |
| 4:70 | 4-162 | 6-8 | "As indicated in Table 4-55, the anticipatable reductions in mineable area would be substantive. The reduction would be from 3,367 acres down to 291 acres for a conceptual 1,500 foot buffer and a reduction in rock mined of approximately 32,729 tonnes." | "As indicated in Table 4-55, the anticipatable reductions in mineable area would be substantive. The reduction would be from **3,412** acres down to 291 acres for a conceptual 1,500 foot buffer and a reduction in rock mined of approximately **32.729 million tonnes.**" | *Technical correction.*<br><br>See acres and linear feet tables in Attachment F. | |
| **Section 4.10.3.2** | | | | | | |
| 4:71 | 4-162 | 15-17 | "As indicated in Table 4-56, under this sub-alternative, the 1,500 foot setback from perennial streams would reduce the mineable acreage from 3,367 acres to 2,121 acres, resulting in approximately 13,257 tonnes of rock not mined;" | "As indicated in Table 4-56, under this sub-alternative, the 1,500 foot setback from perennial streams would reduce the mineable acreage from 3,412 acres to 2,121 acres, resulting in approximately **13.257 million tonnes** of rock not mined;" | *Technical correction.*<br><br>See acres and linear feet tables in Attachment F. | |

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| **Section 4.10.4.3** | | | | | | |
| 4:72 | 4-163 | 28 | | After Line 28, add a new section heading—**4.10.5 Buffer Practicability Analysis**—followed by the following text:<br><br>**At the time of consideration of the four pending applications, proposed buffers, if any, must be reviewed with respect to project practicability and the project purpose. This evaluation would also consider the purpose that the buffer is intended to accomplish and whether alternative measures are available to provide equivalent or superior results in terms of avoidance or minimization of that specific potential impact. For example, the perimeter berms installed to isolate active mining areas from waters of the United States have been demonstrated to be effective at maintaining water quality, based on the data and analysis presented in Section 4.6 above.** | *Suggested clarification*.<br><br>The AEIS should clarify that the buffer practicability analysis will occur during the review of the individual permit applications and will consider site-specific factors and other relevant information.<br><br>See Attachment B for additional information. | |
| **Section 4.11.4** | | | | | | |
| 4:73 | 4-165 | 13-15 | "Noise levels within Hardee County are limited by the Hardee County Development Code, Section 2.15.07 and Section 3.14.02 specifically addresses noise from mining operations with a noise limit of 75 dBA at the mining property line." | "Noise levels within Hardee County are limited by the Hardee County Development Code, Section 2.15.07, and Section 3.14.02 specifically addresses noise from mining operations with a noise limit **of between 60 and 75 dBA** at the mining property line, **depending on the type of adjoining property use and time of day**." | *Technical correction*.<br><br>The noise limit imposed by Hardee County can vary based on several factors (*e.g.*, night/day, commercial/residential property). | |

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| **Section 4.11.8** | | | | | | |
| 4:74 | 4-166 | 19-21 | "Clay settling areas pose the largest land use conversion and typically take several decades before they are able to be returned to other land uses by revelation." | Clay settling areas pose the largest land use conversion and typically take several decades before they are able to be returned to other land uses by **reclamation**." | *Typographical error*. | |
| **Section 4.11.9** | | | | | | |
| 4:75 | 4-167 | 3-6 | "Similarly, the construction of large clay settling areas provides interruption of any pervious viewshed that may have been present pre-mining, although, once revegetated may provide landscaped topography changes that may be welcome in an environment of preciously flat agricultural and rangelands." | "Similarly, the construction of large clay settling areas provides interruption of any **previous** viewshed that may have been present pre-mining, although, once revegetated may provide landscaped topography changes that may be welcome in an environmental of **previously** flat agricultural and rangelands**.**" | *Typographical error*. | |
| **Section 4.11.10** | | | | | | |
| 4:76 | 4-167 | 11-13 | "There are existing corridors for public and industrial transportation conveyances, railroads, and other corridors, often parallel to existing g highways, for transmission of electricity, natural gas, and refined petroleum products." | "There are existing corridors for public and industrial transportation conveyances, railroads, and other corridors, often parallel to existing . . ."<br><br>**[Delete the extraneous "g" at the beginning of Line 13.]** | *Typographical error*. | |
| **Section 4.12.1.3** | | | | | | |
| 4:77 | 4-173 | Fig. 4-58 | Figure 4-58 | Add footnote to Figure 4-58 that while Wingate Creek initiated operations in 1981, 2005 was the starting date for Wingate Creek mining operations under the ownership of Mosaic. | *Suggested clarification*.<br><br>Wingate Creek mine actually started in 1981, although it has not run continuously and has transferred ownership several times since that time. | |

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| **Section 4.12.1.4** | | | | | | |
| 4:78 | 4-174 | 23-24 | "Figure 4-59 shows the extent of mined lands within the CFPD, which have occurred during both periods." | "Figure 4-59 shows the extent of **reasonably definable** mined lands within the CFPD, which have occurred during both periods, **although some historically mined lands are difficult to define and map.**" | *Suggested clarification.* | |
| 4:79 | 4-176 | 12 | "South Fort Meade – Hardee County Extension." | "South Fort Meade **(Polk and** Hardee County Extension)." | *Technical correction.*<br><br>Both the original Polk County portion of South Fort Meade as well as the Hardee County Extension of South Fort Meade are active. | |
| 4:80 | 4-176 | 23-25 | "In contrast, phosphate mining influence on the environmental conditions in the Little Manatee and Peace River watersheds would be predicted to be substantial considering the relative coverage of extractive land uses within these two river basins." | "In contrast, **given the amount of mined area,** phosphate mining influences on environmental conditions in the Little Manatee and Peace River watersheds would be expected to **reflect substantial cumulative impacts** considering the relative coverage of extractive land uses within these two river basins." | *Suggested clarification.* | |
| **Section 4.12.1.5** | | | | | | |
| 4:81 | 4-179 | 23 | | Insert the following immediately after the heading in Line 23:<br><br>"**A fixed amount of funding from phosphate severance taxes each year has been provided to the CARL fund. Until recent years, these CARL funds went towards the purchase of** | *Additional/updated information.* | |

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| | | | | **environmentally sensitive lands; currently they are used for land maintenance. The severance taxes dedicated to the CARL fund from 1979 to 2001 amounted to $482 million. Based on the average cost of CARL fund land acquisitions during that time, these funds would have been sufficient to purchase 495,000 acres, many of which likely would have been in the CFPD. Thus, the industry has provided substantial indirect financial support for large scale preservation within watersheds of the CFPD.**" | | |
| 4:82 | 4-180 to 4-183 | Tbls. 4-62 to 4-65 | Titles for Tables 4-62; 4-63; 4-64 & 4-65 | These tables are misleading due to the large number of Extractive acres. SWFWMD 2009 land cover mapping did not differentiate the mined lands that we reclaimed. | *Suggested clarification*.<br><br>These tables are labeled as though they reflect "Unmined Lands" (See Table Titles), but they each contain an Extractive Category and some of the other categories most likely contain Mined Lands as well. See Comment 2:9, which recommends steps to cure this inherent mapping defect. | 2-22 |
| 4:83 | 4-185 | 13-15 | "Florida Power & Light has identified a site in Desoto County for a potential solar expansion about 6 miles east of the proposed Desoto mine and another potential photovoltaic site about 5 miles east of Parrish, Florida." | "Florida Power & Light has **recently completed a solar plant** in DeSoto County about 6 miles east of the proposed Desoto mine and another potential photovoltaic site **is located** about 5 miles east of Parrish, Florida." | *Technical correction*.<br><br>As reflected on Florida Power & Light's website,[10] its solar project in DeSoto County has been completed. | |

[10] Available at http://www.fpl.com/environment/solar/desoto.shtml.

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| **Section 4.12.2.2** | | | | | | |
| 4:84 | 4-191 | Fig. 4-61 | | Revise this table. | *Technical correction*.<br><br>See Attachment A.<br><br>It appears that Figure 4-61 is using the capture area for the Peace River, rather than the entire CFPD. Note also that as of December 31, 2010, the total mandatory area mined in the CFPD since 1975 was 164,958 acres. The total mandatory area reclaimed through the same date is 118,820 acres. The total mandatory area reclaimed and released by FDEP through the same date is 67,967 acres. As of 12/31/2010, the mandatory area mined and not reclaimed within the CFPD would be 46,136. The area mine, reclaimed, but not released by FDEP as of 12/31/2010 would be 96,989 acres. Figure 4-61 indicates a total acreage mined and not reclaimed at the end of 2010 of about 27,000 acres. (Citation: Florida Department of Environmental Protection (2011) "Rate of Reclamation Report – July 1, 1975 through December 31, 2010", Bureau of Mining and Minerals Regulation). | |
| 4:85 | 4-196 | 9 | | Inserted the following after sentence ending on Line 9:<br><br>"**In fact, Mining/Dewatering use was reduced by 34 MGD or 52% between 2001 and 2009.**" | *Suggested clarification*.<br><br>It would be helpful if more of the information in Table 4-68 were described and included in the narrative text. | |

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| **Section 4.12.3.2** | | | | | | |
| 4:86 | 4-202 | 29-32 | "Chapter 62-345 F.A.C. prescribes measures FDEP must follow to ensure no net loss of functions performed by uplands, wetlands, and other surface waters to the abundance, diversity, and habitats of fish, wildlife, and listed species." | "Chapter 62-345 F.A.C. prescribes measures FDEP must follow to ensure no net loss of functions performed by wetlands and other surface waters to the abundance, diversity, and habitats of fish, wildlife, and listed species." **[Delete "uplands"]** | *Suggested clarification.*<br><br>Chapter 62-345 does not require no net loss of uplands. | |
| 4:87 | 4-205 | 21-23 | "Accordingly, these lands will soon be available for re-population by wildlife. In addition, these properties will be mined over a period of 35-40 years, with about 3,900 acres remaining undisturbed." | "Accordingly, these lands will soon be available for re-population by wildlife. In addition, these **new mine** properties will be mined over a period of 35-40 years, with **at least 3**,900 acres remaining undisturbed **and reclamation being incrementally completed over that time.**" | *Technical correction.*<br><br>Incremental disturbance, mining and reclamation/restoration occurs across a mine site. | |
| **Section 4.12.3.3** | | | | | | |
| 4:88 | 2-206 | 26-30 | "Some recovery has occurred because of reduced reliance on this aquifer for water supply by, for example, the phosphate mining industry plus the gradual movement of active mining centers to the south in the CFPD where surficial and Floridan aquifer separation is increased due to the presence and thickness of the intermediate aquifer system/intermediate confining unit." | "**Significant** recovery has occurred because of reduced reliance on this aquifer for water supply by, for example, the phosphate mining industry plus the gradual movement of active mining centers to the south in the CFPD where surficial and Floridan aquifer separation is increased due to the presence and thickness of the intermediate aquifer system/intermediate confining unit." | *Suggested clarification.*<br><br>"Some recovery" is an understatement and does not acknowledge the industry's efforts to reduce FAS withdrawals since the 1970's as identified by the SWFWMD Recovery Strategy. Comparative review of historical to recent FAS potentiometric maps indicates substantial water level recovery in areas of the CFPD as a result of the industry's groundwater use reductions. | |

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| 4:89 | 4-207 | 2-5 | "While routine reliance on FAS pumpage to support phosphate mining has been significantly reduced compared to the water consumption rates documented for the industry in the 1970s and 1980s, the water supply allocations provided to the industry in Water Use permits remain large in the eyes of the public." | "Routine reliance on FAS pumpage to support phosphate mining has been significantly reduced compared to the water consumption rates documented for the industry in the 1970s and 1980s. **While the water supply allocations provided to the industry in Water Use Permits may be viewed by some as large, the industry's water usage for mining operations in 2010, for example, comprised less than 2% of the FAS withdrawals in the SWFWMD.**" | *Suggested clarification*.<br><br>The total FAS water withdrawals in the SWFWMD associated with phosphate mining constitute a low percentage of total withdrawals and should be put into proper perspective. | |
| 4:90 | 4-210 to 4-226 | Fig. 4-63 to 4-78 | | Revise legend for figures to replace "Drawdown Contour Lines" with "**Water Level Contours**." | *Suggested clarification*.<br><br>See Comment 4:30. | Figs. ES-5; ES-6; 4-20 to 4-23; 4-28; 4-29 |
| **Section 4.12.3.4** | | | | | | |
| 4:91 | 4-231 | 25-27 | "As spring discharge and baseflow contribution to rivers depend on the potentiometric surface of the FAS, an increase in the potentiometric surface of the FAS can be expected to result in additional springflow and/or baseflow contribution to rivers." | "**In areas within the CFPD where the FAS is not well confined, spring discharge and baseflow contribution to rivers depends on the potentiometric surface of the FAS. In those areas, an increase in the potentiometric surface of the FAS can be expected to result in additional springflow and/or groundwater contribution to rivers. In areas of the CFPD where the FAS is well confined, as is the case in the southern portions of the CFPD, increases in the potentiometric surface of the FAS will have limited effects on springflow and/or groundwater contribution to rivers.**" | *Technical correction*.<br><br>It is not universally true across the entire region. Areas in the southern portion of the District are highly confined and surface water flows in some of the southern systems are not related to/heavily influenced by FAS water levels. | ES-32 |

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| 4:92 | 4-232 | 16-17 | "Discharging excess surface water runoff captured in the perimeter systems through these outfalls will maintain hydration of these streams and the aquatic ecosystems they support." | "Discharging excess surface water runoff captured in the perimeter systems through these outfalls **and maintenance of groundwater outflow through the perimeter recharge systems** will maintain hydration of these streams and the aquatic ecosystems they support." | *Technical correction*.<br><br>This statement omits water contributions resulting from groundwater recharge. | |
| 4:93 | 4-232 | | "This corresponds to a decrease in flow of approximately 27 cfs or 16 percent." | "This corresponds to a decrease in flow of approximately 27 cfs, or **13.5** percent." | *Factual / technical correction*<br><br>27/200 = 13.5%; also see Attachment A which includes recommended changes to this analysis | ES-32 |
| 4:94 | 4-236 | 8 | | **Add after Line 8:**<br><br>**Under this analytical approach, the various site alternatives would have the same effect on the water delivered to Charlotte Harbor, and therefore with respect to that issue, there is no preferred alternative.** | *Suggested clarification*<br>The text on pages 4-236 through 4-238 could be supplemented with more analysis and comparisons against historical flow so it is not left unsubstantiated. See also Attachment A. The decrease in flow to Charlotte Harbor from the cumulative mining, however, will remain "barely perceptible" and "insignificant." | |

## DETAILED COMMENTS ON THE DAEIS – MOSAIC FERTILIZER, LLC

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| **Chapter Five** | | | | | | |
| **Section 5.1** | | | | | | |
| 5:1 | 5-1 | 11-12 | "This chapter focuses on the federal Section 404 wetland mitigation requirements of lands mined for phosphate in Florida." | "This chapter focuses on the federal Section 404 **compensatory** mitigation requirements **for wetlands, streams and other waters of the U.S.** mined for phosphate in Florida." | *Suggested clarification.*<br><br>Chapter 5 almost exclusively addresses compensatory mitigation, but this is not made clear. | |
| **Section 5.3.1** | | | | | | |
| 5:2 | 5-2 | 30-33 | "The current approach includes avoidance and preservation of high-quality wetlands and streams; siting of most of the mining area in uplands that have been previously disturbed (e.g., agricultural areas); and mitigation designs that strive to achieve greater habitat functionality and connectivity than that which existed prior to mining." | "**The current approach includes achieving avoidance and minimization of impacts to important ecological systems while attempting to balance these impacts against the recovery of a scarce natural resource for which there is no substitute that is important to the food security of the nation. Where feasible, priority is placed on locating mining in previously disturbed areas (uplands and/or wetlands). In addition, mitigation designs strive to achieve greater habitat functionality and connectivity than what existed prior to mining, complemented by permanent preservation of mitigation areas through conservation easements.**" | *Suggested clarification.*<br><br>The existing statement may be overly broad in implying that wetlands and streams are or can be routinely avoided. Based on the small size of some of the stream systems, they are frequently mined and reclaimed. In addition, while mining may occur mostly in uplands because there is a larger percentage of uplands than wetlands at each site, this statement makes it look like mining routinely avoids all or most wetlands and that all or most uplands are previously disturbed. Some additional clarification is warranted. | |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

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| **Section 5.3.6** | | | | | | |
| 5:3 | 5-4 | 12-14 | "The mitigation requirements and standards for waters of the United States emphasize offsetting the loss of functional values in addition to providing appropriate compensation for the areas of the systems impacted." | "The **compensatory** mitigation requirements and standards for waters of the United States emphasize offsetting the **temporal** loss of functional values in addition to providing appropriate compensation for the areas of the systems impacted." | *Suggested clarification.*<br><br>This statement should acknowledge that temporal loss is a factor in determining mitigation requirements. | |
| **Section 5.3.7** | | | | | | |
| 5:4 | 5-5 | 25 | | Insert as a new paragraph following paragraph ending on Line 25:<br><br>"**It should be noted that the required time to achieve success criteria can be dependent on wetland hydrologic success, in terms of hydroperiod depth and duration, which can be generally determined to be either successful or not shortly after the completion of grading of the wetland and contributing upland watershed. Current ERP and Corps permit (SAJ-1997-4099-IP-MGH) require a hydrologic analysis following a minimum of two years of monitoring to determine if the wetland hydrology will support the planned vegetative community type.**<br><br>**With respect to vegetative community composition, survivorship, and exotic species abundance, Best (1997) evaluated 156 wetlands created by phosphate mine** | *Additional/updated information.*<br><br>The discussion on mitigation success would benefit by including additional information from Best, G.R., M. Brown, T. Crisman, K. Erwin, D. Gratz, K. Reddy, H. Kale, P. Prtichard, T. Missimer, C. Walker, A. Owosina, and M. Dueuven: 1997, Evaluation of Constructed Wetlands on Phosphate Mined Lands in Florida (FIPR Report No. 92-03-103). | |

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| | | | | **operators and concluded:**<br>• **Percent cover in herbaceous wetlands appears to stabilize 3 to 5 years after planting;**<br>• **Forested tree density decreases from 600 to 800 trees per acre at planting to about 400 trees per acre after five years, as compared to mature native wetland forests densities of 300 to 360 trees per acre;**<br>• **Species richness of reclaimed marshes appears to rival the most diverse natural marshes;**<br>• **Species richness of planted trees in forested wetlands is higher than richness found in native mixed hardwood swamps; and**<br>• **Herbicide use controls nuisance species. Sites that have been maintained with herbicide generally exhibit ≤ 10% nuisance cover, while those with no herbicide maintenance have about 30% nuisance cover.**<br>**Best (1997) also concluded that water quality and aquatic fauna populations stabilized within five to six years after planting.**<br>**Thus, most success metrics aremet within six years following planting, although more time is generally needed for canopy development. Forested canopy closure, shade-tolerant shrub, and ground cover vegetation development, and wildlife utilization are success metrics generally require more than six years to meet.**" | | |

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| **Section 5.3.8** | | | | | | |
| 5:5 | 5-6 | 18-22 | "At present, the phosphate industry cannot claim functional gain for wetlands and surface waters that are established on reclaimed CSAs. A primary reason for this is that CSA wetlands are hydrologically isolated and perched above the groundwater table. They are dependent on rainfall for hydration, and evapotranspiration is the main mechanism for water to leave the system." | "**The USACE has accepted a limited amount of wetland mitigation on CSAs. CSA wetlands are particularly attractive to wading bird and other wildlife use, and provide a water quality treatment function for CSA stormwater runoff.**" | *Technical correction*.<br><br>As indicated, the Corps periodically does accept wetland mitigation on CSAs on a case by case basis.<br><br>For supporting information on the hydrology of CSAs, see the following sources:<br><br>• Ross, Mark, Mark Stewart, Ken Trout and Mark Rains, Hydrology of a Clay Settling Area, 2008, Prepared for Florida Institute of Phosphate Research.<br><br>• Exner-Kittridge, Michael G. and Mark C. Rains, A case study on the accuracy and cost/effectiveness in simulating reference evapotranspiration in west-central Florida, 2010, Journal of Hydrologic Engineering<br><br>• Ross, Mark A., 2011, Hydrology of Clay Settling Areas, FIPR Board Meeting<br><br>• Kittridge, Michael G., Mark C. Rains, Mark Stewart and Mark A. Ross, 2007, Cost/Effectiveness Analysis of Obtaining Operational Estimates of Reference Evapotranspiration, Peninsular Florida, USA | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| | | | | | • Murphy, Kathryn E., Mark C. Rains, Mark Stewart and Mark A. Ross, 2007, Hydrological Connectivity Between Clay Settling Areas and Surrounding Hydrological Landscapes in the Phosphate Mining District, Peninsular Florida, USA.<br><br>• Murphy, Kathryn E., Mark C. Rains, Michael G. Kittridge, Mark T. Stewart and Mark A Ross (2008) Hydrology of Clay Settling Areas and Surrounding Landscapes in the Phosphate Mining District, Peninsular Florida, Journal of the American Water Resources Association (JAWEA) Vol. 44 No. 4<br><br>• Pechenik, Natalie, Mark C. Rains, Mark T. Stewart and Mark A Ross, 2009, Lateral Macropore Dominated Flow On A Clay Settling Area In The Phosphate Mining District, Peninsular Florida<br><br>• Spencer, John M., Mark Stewart, Charles Connor and Mark Rains, 2008, Comparing a Low-Volume Piezometer to Traditional Wells in Evaluating Hydraulic Lag Caused by Low-Permeability Sediments | |

| COM. NO. | PAGE | LINE/ TBL./ FIG. | EXISTING TEXT | SUGGESTED REVISION[1] | COMMENT | CROSS REF.[2] |
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| **Section 5.4.1** | | | | | | |
| 5:6 | 5-7 | 5-7 | "Integrated modeling based on hydrogeomorphic principles has been used by the phosphate industry in wetland design since 1995, when CF Industries developed an integrated model for its South Pasture Mine reclamation plan (SDI, 1995)." | "Integrated modeling based on hydrogeomorphic principles has been used by the phosphate industry in wetland design since 1995, when CF Industries developed an integrated model for its South Pasture Mine reclamation plan (SDI, 1995). **It has subsequently been used by Mosaic in support of appropriate wetland designs as well.**" | *Suggested clarification.* | |
| 5:7 | 5-7 | 19-23 | "Plant transplantation serves as an alternative to nursery grown plants, and is the preferred approach for some plant species, such as bay trees. An example of the use of muck application and plant transplantation is Mosaic's Alderman Creek Bay Swamp Demonstration Project. This project involved the construction of a seepage wetland via muck application and a combination of bay tree transplantation and nursery-grown plantings (Gaines et al., 1999)." | "Plant transplantation serves as an alternative to nursery grown plants, and is the preferred approach for some **herbaceous** plant species, **particularly those not available through commercial nurseries. Transplantation, however, is rarely used for tree species.** An example of the use of muck application and **experimental** tree transplantation is Mosaic's Alderman Creek Bay Swamp Demonstration Project. This project involved the construction of a seepage wetland via muck application and a combination of experimental bay tree transplantation and nursery-grown plantings. (Gaines et al., 1999) **Monitoring of the site over the course of 10 years, however, has found that the trees planted from nursery stock are more abundant, with better survival and higher growth rates, than those transplanted from other wetlands, see S. Denton,** "Characterization of Forested Seepage Swamps on Mosaic Lands in the Bone Valley of West-Central Florida" April 2011. **The typical and preferred approach in planting most forested wetlands, including bay swamps, is a combination of installed** | Suggested clarification. | |

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| | | | | **nursery stock ranging in size from seedlings to three-gallon. This method has been utilized for many years with good success rates (determined by wetland releases), with the primary key to success being healthy stock and appropriate hydrology.**" | | |
| 5:8 | 5-8 | 16-19 | "Although such studies provide evidence that advances in wetland construction technology have resulted in better functioning wetlands, it is generally accepted that more research is needed to better understand how constructed wetlands compare to natural undisturbed wetlands." | "**Permittees are required to meet the specific success criteria specified in these permits. Mitigation areas are considered successful when they function as designed and satisfy the permit requirements. This is known as "release," although refinement in success criteria could be achieved by comparing constructed wetlands to select reference wetlands.**" | *Suggested clarification*.<br><br>Additional text on success criteria for mitigation projects.<br><br>See also Comment associated with page pg 5-10 lines 31-23, below, which suggests the term "reference" wetlands be substitute for the term "natural, undisturbed wetlands" and Florida Department of Environmental Protection (FDEP), 2011, *Rate of Reclamation Report*. Presentation by Michelle Sims. Florida Department of Environmental Protection. | 5-10 |
| **Section 5.4.2** | | | | | | |
| 5:9 | 5-10 | 19 | | Add this text to the end of the paragraph ending on Line 19:<br><br>"**The time frames reported for stream success in FDEP (2007) are based on sites reclaimed using pre-2005 technologies. Today, major stream habitats such as pools, overhanging roots, and large woody debris that at one time took years to develop are now created at initial construction.**" | *Technical correction*.<br><br>For additional information, see AMEC, 2012b. | |
| 5:10 | 5-10 | 31- | "Additional research would provide more | "**Refinement in success criteria could be** | *Suggested clarification*. | |

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| | | 32 | information into how constructed streams compare to natural undisturbed streams." | **achieved by comparing constructed streams to select reference streams.**" | There are few, if any, truly natural undisturbed (e.g., pristine) headwater streams in the region, with the majority of streams proposed for impact being quite small and many having been ditched, cleared or otherwise agriculturally impacted prior to the request for mining. Therefore, we suggest substituting the term "reference" streams for the term "natural, undisturbed" streams. Such reference streams should be selected prior to the initiation of mitigation.<br><br>See also Riparian Wetland Mitigation: Development of Assessment Methods, Success Criteria and Mitigation Guidelines (2007), Florida Department of Environmental Protection Bureau of Mine Reclamation (FDEP). | |
| **Section 5.5.1** | | | | | | |
| 5:11 | 5-11 | 25 | | Insert on page 5-11 after Line 25:<br><br>"**Phosphate mine operators propose and implement mitigation that is watershed-based and in-kind—whether on-site or off-site. The expansive nature of the project size and the unacceptable outcome of leaving an area as large as a mine site area devoid of wetlands, however, demonstrates that mitigation is best considered on a case-by-case basis. Phosphate operators are subject to financial responsibility requirements for reclamation (even for on-** | *Suggested clarification*. | |

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| | | | | **site mitigation) through state and county bonds; these financial assurances are comparable to the financial assurances required of mitigation banks.** " | | |
| **Section 5.5.2.3** | | | | | | |
| 5:12 | 5-16 | 14-16 | "Banks typically reduce uncertainty over whether the compensatory mitigation will be successful and also frequently are more cost-effective due to economies of scale." | "**While banks can reduce uncertainty over the success of compensatory mitigation and be more cost-effective due to economies of scale, as stated in Section 5.5.1, the phosphate industry typically conducts onsite mitigation considering function and connectivity with respect to the overall watershed in mind. The 2008 Regulations give the District Engineer flexibility to approve such projects, as an alternative to, or in conjunction with, off-site mitigation projects, or mitigation banks, based on the needs of the watershed.**" | *Suggested clarification*.<br><br>While mitigation banks are one option, they should not appear to be the sole option, or even necessarily the best in all cases. | |
| **Section 5.6** | | | | | | |
| 5:13 | 5-18 | 17 | | Insert the following after sentence ending on Line 17:<br><br>"**It also should be noted that final mitigation determinations is not necessarily based on acres of wetlands and feet of streams impacted alone. Rather, it is calculated to compensate for unavoidable losses in wetland and stream function, including any temporal loss, caused by mining activities.**" | *Suggested clarification*.<br><br>Section 5.6 may be misleading because it implies that wetland acres and stream feet are the metrics used to evaluate mitigation. | |
| 5:14 | 5-18 | 28 | "Desoto – 38 percent increase in wetland | "Desoto – **31** percent increase in wetland | *Technical correction*. | |

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| | | | area; 1 percent increase in stream length" | area; 1 percent increase in stream length" | See acres and linear feet tables in Attachment F for correct acreages. | |
| 5:15 | 5-19 | Tbl. 5-1 to 5-3 | Preliminary Estimated Quantities of Federal Jurisdictional Wetlands and Streams Proposed to be Avoided, Disturbed, and Reclaimed on the Proposed Mine Sites | | *Technical correction*.<br><br>Several of the acreages in these tables are incorrect. See acres and linear feet tables in Attachment F. | |
| **Section 5.7** | | | | | | |
| 5:16 | 5-21 | 11-13 | "As of December 31, 2009, approximately 71 percent of the land mined for phosphate has been reclaimed since the Reclamation Rule was adopted, with the remainder of this land still under mining operations (FDEP, 2012c)." | "As of December 31, 2010, approximately **72** percent of the land mined for phosphate has been reclaimed since the Reclamation Rule was adopted, with the remainder of this land still in mining operations use, **which includes active mining, CSAs, infrastructure and/or on-going but not completed reclamation. (FDEP 2011)**" | *Technical correction*.<br><br>See Comment 4:[p, 191]. Although they are similar, we recommend using the latest available FDEP Rate of Reclamation report for consistency. | |
| **Section 5.9** | | | | | | |
| 5:17 | 5-23 | 11-14 | "The findings of pre-clearing surveys are used to develop the mine's Wildlife and Habitat Management Plan, which outlines the measures to be implemented to protect/manage wildlife and listed species, and their habitats during mining operations." | "**The industry develops a site-specific Wildlife and Habitat Management Plan for each mine,** which outlines measures to be implemented to protect and manage wildlife and listed species, and their habitats, **including provisions for pre-clearing surveys and site clearing procedures relevant to wildlife presence.**" | *Technical correction*.<br><br>While site surveys are performed during the permitting phase of a project, the pre-clearing surveys are conducted just prior to mining, after permit applications have been issued. Wildlife and Habitat Management Plans provide for pre-clearing survey protocols. | |
| 5:18 | 5-24 | 8-11 | "Xeric scrub habitats within the CFPD | "Xeric scrub habitats within the CFPD | *Typographical error*. | |

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| | | | have the potential to support several scrub-dependent listed species including the federally-listed Florida scrub jay, bluetail mole skink (*Eumeces egregius lividus*), sand skink (*Neoseps reynoldsi*), Florida bonamia (*Bonamia grandiflora*), Florida golden aster (*Caryopsis floridana*), and perforate reindeer lichen (*Caledonia perforate*)." | have the potential to support several scrub-dependent listed species including the federally-listed Florida scrub jay, bluetail mole skink (*Eumeces egregius lividus*), sand skink (*Neoseps reynoldsi*), Florida bonamia (*Bonamia grandiflora*), Florida golden aster (***Chrysopsis*** *floridana*), and perforate reindeer lichen (*Caledonia perforate*)." | | |

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| **Chapter Seven** | | | | | | |
| 7:1 | | | (Naira, 2010) found on pg 1-10, Line 17 | **The following references are cited in the AEIS, but not included in the list of references:**<br><br>Add Citation to the Reference List | *Correction to reference/citation.*<br>Correct Citation Unknown | |
| 7:2 | | | (Lifton, 2011) found on pg 1-11, Line 18 | Add Citation to the Reference List | *Correction to reference/citation.*<br>Correct Citation Unknown | |
| 7:3 | | | Citation to unnamed Florida Industrial and Phosphate Research Institute report found on pg 1-13, Line 3 | Add Citation to the Reference List | *Correction to reference/citation.*<br>Correct Citation Unknown | |
| 7:4 | | | Florida Phosphate Council's 2004 Fact Sheet found on pg 1-13 | Add Citation to the Reference List | *Correction to reference/citation.*<br>Correct Citation Unknown | |
| 7:5 | | | (BREA, 2002) found on pg 1-13, Line 13 | | *Correction to reference/citation.*<br>Correct Citation Unknown | |
| 7:6 | | | (PBSJ, 2009) found on pg 3-90 Line 25 | Add Citation to the Reference List | *Correction to reference/citation.*<br>Correct Citation Unknown | |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

[2] The Cross Reference column refers to other pages, tables, or figures of the DAEIS to which the comment also would be applicable.

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| 7:7 | | | Mushinsky, McCoy, and Kluson (1996) found on pg 3-118, Line 22 | Add Citation to the Reference List;<br>Correct Citation is:<br>**Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Uplands in Central Florida, Florida Institute of Phosphate Research Publication No. 03-115-129.** | *Correction to reference/citation.* | |
| 7:8 | 7-16 | | Mushinsky, McCoy and Kluson (2001) found on pg 3-119, Lines 33-34 | Correct Citation is:<br>**Mushinsky, M.R., E.D. McCoy and Kluson, 2001, Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Flatlands in Central Florida, Florida Institute of Phosphate Research Publication No. 03-115-180** | *Correction to reference/citation.*<br>Add Citation to the Reference List | |
| 7:9 | | | (FFWCC, 2009) found on pg 4-3, Line 31 | Add Citation to the Reference List | *Correction to reference/citation.* | |
| 7:10 | 7-10 | 15 | Florida Phosphate Council, 2003, 2003 Fact Sheet | **Delete this Citation** | *Correction to reference/citation.*<br>This document is not cited in the DAEIS | |
| 7:11 | 7-6 | 7 | Durbin, Douglas J., 2008, *Wildlife Habitat and Wildlife Utilization of Phosphate Mined Lands*, December. | "**Durbin, D.J, S. Gonzales, H. Mushinsky, E. McCoy, R. Moore, N. Halstead and K. Robbins, 2008, Wildlife Habitat and Wildlife utilization of Phosphate-mined Lands, Florida Institute of Phosphate Research Publication No. 03 – 147 – 230.**" | *Correction to reference/citation.* | |

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| **Appendix A** | | | | | | |
| X:1 | A5-3 | | Map on page A 5-3 – Alternative 4 (Wingate East Mine) | This map shades in an area at the northwest corner of the Wingate East Tract and identifies it as a Peace River Greenway corridor. The West Fork of Horse Creek, a subbasin to the Peace River, crosses the northeast corner of the Wingate East tract. This map properly shows the Watershed boundary with a red line. | *Technical correction*.<br><br>This map identifies a 500-foot setback area in the northwest corner of Wingate East as part of the Peace River "Greenway", but this area is not in the Peace River watershed. | ES-19 |
| **Appendix B** | | | | | | |
| X:2 | App. B, 3 | | | Add the following to the list at the bottom of Page 3:<br><br>• **Waters within the Little Manatee River State Recreation Area (Rule 62-302.700(9)(c)48 and 51, F.A.C.)**<br>• **Waters within the Myakka River State Park (Rule 62-302.700(9)(c)57, F.A.C.)**<br>• **Waters within the Paynes Creek State Historic Site (Rule 62-302.700(9)(d)11, F.A.C.)**<br>• **Waters within Beker Tracts (Rule** | *Technical correction*.<br><br>At the bottom of the page is a list of water bodies within CFPD watersheds that are designated as Outstanding Florida Waters, but it is incomplete. We suggest deleting the bullet point reference to "Little Manatee River" on Line 23 because the entire river is not an OFA listing in Rule 62-302.700(9) and adding other relevant water bodies that are covered by the rule. | 3-83 |

[1] Suggested new text is in **bold** font. Suggested additions/revisions to existing text are underlined.

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| | | | | **62-302.700(9)(f)4, F.A.C.)**<br>• **Hillsborough River – certain segments (Rule 62-302.700(9)(i)14, F.A.C.)**<br>• **Myakka River – certain segments (Rule 62-302.700(9)(i)22, F.A.C.)**<br>• **Little Manatee River – certain segments (Rule 62-302.700(9)(i)20, F.A.C.** | | |
| X:3 | App. B, 13 | | Section 5.1 NPDES Discharge Data | The following should be added as a new paragraph after the sentence ending ". . . by these FDEP-specified permit conditions.":<br><br>"**In addition to routine weekly or monthly sampling and analysis of these parameters, each mine must also sample and analyze flotation process water for a variety of organic compounds annually and complete aquatic toxicity testing on discharged process water annually. Once every five years, the discharges must be analyzed for every parameter for which Florida has established a water quality standard under Rule 62-302, F.A.C**." | *Suggested clarification*.<br><br>The discussion in Section 5.1 omits several monitoring requirements. | |
| X:4 | App. B, 13 to14; 23 to 24 | Tbl. 4 to 9 | Mine Discharge - Mean Water Quality Value tables: Table 4- thru Table 11 | Table 4 in Appendix B, pg 13 lists average data by outfall, with, for example, a column for FCO Outfall 001 and a column for FCO Outfall 002 for the period 2005 through 2010.<br><br>Tables 6 and 7 on pg 23 list the same data | *Technical correction*.<br><br>Discrepancies in values between the two tables need to be checked, because they should be the same. If they aren't supposed to be the same, otherwise an explanation is needed. | ES-28; 4-107 to 4-111 |

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| | | | | for the same time frame, except they contain the data for one outfall per table. Consequently, the data in Table 4 should correspond to the data in the FCO 002 column in Table 7, but they don't match, *i.e.,*<br>Outfall FCO 002<br>Tbl 4 Tbl 7<br>pH no discrepancy<br>Specific Conductance 653 670<br>Turbidity 7.0 5.29<br>Dissolved Oxygen 7.8 7.5<br>Total Phosphorus no discrepancy<br>Total Nitrogen 0.93 1.03<br>Chlorophyll-a 14.8 16.45<br><br>Similar discrepancies exist for the other outfalls/tables: see, Tables 4 thru 11.<br><br>Table 4 is the same as Tables 4-19 in Chapter 4 and Table ES-12 in the Executive Summary<br><br>Mosaic has included a copy of the NPDES Outfall data on the attached CD. | Note: There also appears to be a rounding error in some of the values, as the values in Tables 4 thru 11 in Appendix B, may be off by a tenth with respect to the values in Tables 4-19 thru 26 in Chapter 4. | |
| X:5 | App B pg 30 | | | **Section 6 – Effects of Phosphate Mine Reclamation on Surface Water Quality**<br>Additional information from FDEP report is relevant and should be added.<br><br>**"The Biological and Water Quality Assessment of the Peace River Basin (FDEP,** | *Suggested clarification*.<br><br>The results of the Biological and Water Quality Assessment of the Peace River Basin (FDEP, 2009) could be summarized here in a manner similar to the summary provided in | 3-103 |

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| | | | | **2009) notes that of the 17 tributaries to the Peace River that were studied, seven (7) drain substantial phosphate mining areas. All of the sites draining such mining areas achieved Healthy SCI scores. The average SCI score on the mining sites was 59, while the average score from streams draining unmined basins was 50. This suggests that current mining and reclamation practices are protective of the hydrology and water quality factors necessary to support viable stream communities. For example, most of Payne Creek's 121 sq. mi. watershed has been mined and reclaimed subsequent to passage of the Clean Water Act and Mandatory Reclamation Rule, and this system scores quite high with SCI values ranging from 60 to 65 during the 2008 study (scores of 40 or above are deemed Healthy).** | Chapter 3, pg 103 – 104. For example, noting that of the 17 tributaries to the Peace River in the study, seven drain substantial phosphate mining areas. All of the sites draining such mining areas achieved Healthy SCI scores. **Three of the 10 tributary sites draining non-mining areas failed to achieve Healthy designations.** | |
| X:6 | App. B, 28 | | | Add the following to the end of the last paragraph on Page 28:<br><br>"**It should be noted, however, that the FDEP SCI technique (see DEP-SOP-003/11) requires confirmation of flow conditions prior to sampling, recognizing that SCI indicator taxa require sustained flow conditions to maintain populations. For example, Section 2.2 of the SOP requires stream discharge for 180 consecutive days and flow within a range of acceptable velocities for 28 consecutive days prior to testing. This requirement will seldom be met in the non-perennial streams typically impacted by phosphate mines, yet the DEP-SOP does not provide equivalent protocols for intermittent or ephemeral streams.**" | *Suggested clarification*.<br><br>The limited test data for the Wingate outfall may have given a false indication of impairment, but the text does not acknowledge this. | 4-117 |

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| X:7 | App. B, 33 | | Last line on Page 32 and top of Page 33:<br><br>"If these deliberations reach resolution prior to the completion of this AEIS, however, further consideration of the alternatives under AEIS review will need to address these new regulatory requirements. Even in advance of administrative resolution, review of how the new regulatory requirements could affect future consideration of proposed phosphate mining projects is warranted. | **"Despite on-going deliberations, it should be noted that the applicants' existing NPDES permits already contain specific conditions limiting the concentrations of nitrogen and phosphorus in any water discharged as well as "target values" for nitrogen and phosphorus loadings that will apply until a Load Allocation is issued under the TMDL program or the NNC. Therefore, FDEP has already begun implementation of substantially similar nutrients controls in the CFPD in advance of establishment of TMDLs and the NNC."** | *Additional/updated information.*<br><br>See Comment 3:39. | 3-93; 4-124 |
| **Appendix D** | | | | | | |
| X:8 | | | | | *Technical correction.*<br><br>Streams will not be impacted as described in this Appendix. In Chapter 3, Page 67, the text cites Terri Lee's Charlie Creek study which indicated that artesian conditions in the IAS support low-order streams and headwater wetlands. That is not true of the IAS or FAS within the parts of the watershed at any of the four mine sites. See Chapter 3 comments for further clarification. | |
| X:9 | App. D, 1 | | "This technical memorandum (TM) documents the development and application of a groundwater flow model to evaluate potential changes in Floridan aquifer water levels associated with anticipated industrial water supply withdrawals from the aquifer to support four proposed phosphate mine projects (Ona, Wingate East, DeSoto, and South Pasture Extension)." | "This technical memorandum (TM) documents the development and application of a groundwater flow model to evaluate potential changes in Floridan aquifer water levels associated with anticipated **mining** water supply withdrawals from the aquifer to support four proposed phosphate mine projects (Ona, Wingate East, DeSoto, and South Pasture Extension)." | *Technical correction.*<br><br>SWFWMD has a separate category for mining water use | ES-3; 3-5; 4-9; 4-75 |

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| X:10 | App. D, 1 | | "The model was based on the Southwest Florida Water Management District (SWFWMD) District-Wide Regulatory Model Version 2 (DWRM2), which is a MODFLOW model (Harbaugh et al., 2000) used by the SWFWMD to conduct groundwater resource evaluations and specifically support its water supply permitting decisions." | "The model was based on the Southwest Florida Water Management District (SWFWMD) District-Wide Regulatory Model **Version 2.1** (DWRM2), which is a MODFLOW model (Harbaugh et al., 2000) used by the SWFWMD to conduct groundwater resource evaluations and specifically support its water supply permitting decisions." | *Typographical error*.<br><br>The correct version of the District-Wide Regulatory Model is **Version 2.1** (not Version 2). | 4-9 |
| X:11 | App. D, 12 | Tbl. 2 | The total "Number of Targets" in the first line of the Table for "All Model" is listed as "10039." | The total number of targets should be "**1029**." | *Typographical error*. | |
| X:12 | App. D, 17 | | First paragraph in Section 6.1.1.1 states, "By 2016, it is assumed that . . . Hopewell will have ceased operating." | [**Delete the phrase: Hopewell will have ceased operating, but adjust work product accordingly.]** | *Technical correction*.<br><br>Hopewell was mined out and closed in January 2011 as reserves were depleted. | 2-6 |
| X:13 | App. D, 30 | | In the fourth bullet point:<br><br>"The Ona Mine is the only proposed mine that includes new FAS withdrawal locations and allocations beyond the current levels of water supply allocation for phosphate mining within the CFPD." | Replace the fourth bullet point text with the following:<br><br>"**FAS withdrawal allocations for the Ona Mine will make use of existing permitted quantities. These quantities, although already part of a SWFWMD WUP permit, will involve the installation and use of new wells at the Ona site in association with decreases in pumped quantities elsewhere**." | *Technical correction*.<br><br>Ona water uantities have already been permitted and Ona does not need new allocations, it will only be a new withdrawal location. | ES-22; 4-9, 4-12, |
| X:14 | App. D, 49 | | 8.3 Results of Simulated FAS Changes<br><br>"Overall, the Alternative 1 and Alternative 2 modeling results predict that the potentiometric surface of the FAS will increase over the long-term periods evaluated under this AEIS. These changes are predicted primarily as the | 8.3 Results of Simulated FAS Changes<br><br>"Overall, the Alternative 1 and Alternative 2 modeling results predict that the potentiometric surface of the FAS will increase over the long-term periods evaluated under this AEIS. These changes are predicted primarily as the | *Suggested clarification*.<br><br>It should be noted that SWFWMD has not imposed a "cap" or simply "prohibited" new groundwater withdrawals and that efforts to reduce groundwater use are not limited solely to Agricultural users. | 4-15; 4-82 |

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| | | | result of SWFWMD-imposed cutbacks on FAS agricultural withdrawals and the prohibition of additional FAS groundwater withdrawals per the SWUCA recovery strategy. If phosphate mining is considered separately, the average water level changes are on the order of 0.1 foot or less. From the order of magnitude of the predicted changes in the FAS levels attributable to the effects of phosphate mining alone, it can be seen that the differences are small when viewed in the perspective of historical variability in FAS water levels, as documented in relevant SWFWMD ROMP wells within the study area.<br><br>The predicted FAS water level changes do not adversely impact the SWIMAL, FAS MFL targets beneath the Ridge Lakes or the Upper Peace River Basin. Spring discharge and baseflow contributions to the Upper Peace River are affected by the potentiometric surface of the FAS. The model results indicate that the potentiometric surface of the FAS will, on average, increase; spring discharge and baseflow contributions to the Upper Peace River are expected to also increase. | result of SWFWMD-imposed cutbacks on FAS ~~agricultural~~ withdrawals ~~and the prohibition of additional FAS groundwater withdrawals~~ per the SWUCA recovery strategy. If phosphate mining is considered separately, the average water level changes are on the order of 0.1 foot or less. From the order of magnitude of the predicted changes in the FAS levels attributable to the effects of phosphate mining alone, it can be seen that the differences are small when viewed in the perspective of historical variability in FAS water levels, as documented in relevant SWFWMD ROMP wells within the study area.<br><br>The predicted FAS water level changes do not adversely impact the SWIMAL, FAS MFL targets beneath the Ridge Lakes or the Upper Peace River Basin. Spring discharge and baseflow contributions to the Upper Peace River are affected by the potentiometric surface of the FAS. The model results indicate that the potentiometric surface of the FAS will, on average, increase; spring discharge and baseflow contributions to the Upper Peace River are expected to also increase.<br><br>**Add at the end of Section 8.3**<br><br>**Additionally, the prediction of increased water levels over time is generally accurate and consistent with the predicted effects of the SWFWMD's SWUCA Recovery Strategy.** | Also, the reference to "Trail Ridge Lakes" is incorrect and should simply read "Ridge Lakes" (Trail Ridge is located in northeast Florida). | |

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| **Appendix E** | | | | | | |
| X:15 | App. E, pg 15 | | Soils data in the database were mapped by the NRCS for the CFPD counties between 2000 and 2010. | No change needed if this is the data that is being relied upon; however, see comment. | *Additional/updated information*.<br><br>The Soil Hydrologic Group Classification for soils in the CFPD counties was updated between 2010 and 2012, therefore the citation/ data in Section 2.3.4 could be updated accordingly. | 3-7 |
| X:16 | App. E, pg 17 | Fig. 10 | Figure 10 – Soils Hydrologic Group Map<br><br>Source USDA NRCS, 2000- 2010 | No change needed if this is the data that is being relied upon; however, see comment. | *Additional/updated information*.<br><br>The Soil Hydrology Group Classification for soils in the CFPD counties was updated between 2010 and 2012. Therefore the citation / data could be updated accordingly. See also Comment with respect to pg 3-20 Fig 3-10. | 3-20 |
| X:17 | App. E, pg 25 | Fig. 14 & 15 | Figure 15 | 1) Figure 15 shows row crop agriculture uses increasing from 5,000 acres to nearly 40,000 acres. Yet, the AEIS correctly notes SWFWMD intends to reduce agricultural pumping. Thus, this analysis appears inconsistent with AEIS Section 4.12 (Cumulative impacts).<br><br>2) Figure 15 also projects an increase in mining use from under 40,000 acres in 1990 to nearly 60,000 acres in 2060. In contrast, Figure 4-61 in the AEIS shows a drop from just under 40,000 acres in 1990 to just under 20,000 acres in 2060, the exact opposite of Figure 15. Need to reconcile this discrepancy. | *Factual / technical correction*.<br>Page 3 of Attachment D regarding agricultural output on mined lands, may be instructive.<br><br>Information in Attachment A regarding cumulative mine use acreage may be instructive. Not the underlying data for the bar charts in Attachment A can be found on the enclosed CD.<br><br>(The total area mined in the Peace River basin above Arcadia in 1990 is approximately 53,000 acres. The total area mined and proposed to be mined in the Peace River basin above Arcadia | |

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| | | | | 3) The projected increases in wetlands need an explanation, as does the drop in pasture from 180,000 acres in 1990 to less than 40,000 acres in 2060 (Note that most csas are reclaimed to pasture). | through 2040 is approximately 114,000 acres. The total area captured behind the ditch and berm system in the Peace River basin above Arcadia in 1990 was approximately 38,000 acres. The total capture area in 2040 under the proposed action is predicted to be approximately 7,000 acres. For Mosaic and CF only, the capture areas under the proposed action are 28,500 acres and 7,000 acres, respectively. Mosaic is available for further discussion on this comment if warranted. | |
| X:18 | App. E, pg 27 to 31 | Fig. 17 to 21 | Mine Capture Area Graphs | The mine capture analyses in Appendix E, illustrated in Figures 17 thru 21 are inconsistent with each other, with the data presented in Mosaic applications, and excessively conservative. | *Suggested clarification*.<br><br>See Attachment A for discussion on capture. Also, note, that 100% capture is more than a conservative assumption, it is overly conservation. Attachment A demonstrates that actual capture is in the magnitude of 20 to 40%. 50% capture, not 100%, would be considered conservative. | Fig. 4-36, 4-39, 4-42, 4-44, 4-47, 4-49 |
| X:19 | App. E, pg 31 & 34 | | Pg 31 - Figure 21 Pine Level/Keys Tract Mine Capture Area Graph<br><br>Pg 34 - Figure 21 Horse Creek Annual Average Projected Flows for Average Annual Rainfall with and without DeSoto Mine | Renumber figures | *Typographical error*.<br><br>There are two figures labeled "Figure 21." | |

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| X:20 | App E pg 33 & 35 | | Pg 33 – Figure 22 Pioneer Mine Capture Area Graph<br><br>Pg 35 Figure 22 Peace River at Arcadia Average Projected Flows for Average Annual Rainfall with and without DeSoto Mine | Renumber figures | *Typographical error*.<br><br>There are two figures labeled "Figure 22." | |
| X:21 | App. E, 35 | | "The largest influence on average annual flow from the Horse Creek subwatershed during average rainfall conditions was predicted in 2040, when Horse Creek may have an average annual flow of approximately 203 cfs without the Ona Mine and approximately 187 cfs with the Ona Mine. This maximum reduction corresponds to a decrease in flow of approximately 16 cfs, or 8.5 percent." | "The largest influence on annual average flow from the Horse Creek subwatershed during average rainfall conditions was predicted in 2040, when Horse Creek may have an average annual flow of approximately 203 cfs without the Ona Mine, and **approximately 192.5 cfs with the Ona Mine. This maximum reduction corresponds to a decrease in flow of approximately 10.5 cfs, or 5.2 percent**." | *Technical correction*.<br><br>See also Attachment A | 4-90 |
| X:22 | App. E, 52 | | "This corresponds to a decrease in flow of approximately 27 cfs or 16 percent." | "This corresponds to a decrease in flow of approximately 27 cfs, or **13.5** percent**.**" | *Factual / Typographical error.* However, the analysis need to be updated per the discussion in the Garlanger report found at Attachment A. | ES-32; 4-232 |
| X:23 | App. E, 60 | | "Together the cumulative effects of all six prospective mine projects on water deliveries by the two rivers to the Charlotte Harbor Estuary may be reduced by approximately 2 percent . . . | Revise analysis to use a more realistic capture percentage. .<br><br>Add at the end of Summary and Conclusions:<br><br>**Under this analytical approach, the various site alternatives would have the same effect on the water delivered to Charlotte Harbor, and therefore with respect to that issue, there is no preferred alternative.** | *Suggested clarification*.<br><br>Also, the text on pages 4-236 through 4-238 needs to be supplemented with more analysis and comparison against historical flow so it is not left unsubstantiated. See Attachment A. The decrease in flow to Charlotte Harbor from the cumulative mining, however, remains "barely perceptible," as stated on p 4-237 line 34. | 4-236 to 238 |

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| **Appendix F** | | | | | | |
| X:24 | App. F, 8 | | Last bullet point on pg 8<br><br>The cost of constructing a new beneficiation plant was estimated at $1 billion and will be constructed over a 10-year period (average of $100 million per year). | Last bullet point on pg 8<br><br>The cost of constructing a new beneficiation plant **and other needed start-up infrastructure** was estimated at $1 billion and will be **designed and** constructed over a **54 month** period. | *Technical correction*. | 4-27 |
| X:25 | App. F, 9 | | Hamilton County phosphate production was assumed to be 6.15 million tonnes annually, which is their average annual level of production over the last 7 years. | "Hamilton County phosphate production was assumed to be **2.79 million tonnes, or 3.07 million tons, as an annual average production level over the last 3 years.**" | *Technical correction*.<br><br>PCS Phosphate is the only active operator in Hamilton County. The seven-year average production capacity may be misleading because one of the two mines operating in Hamilton County has been depleted and closed, with only the Swift Mine currently operating. Over the seven year period between 2005 through 2011, the PCS Swift Creek Mine in Hamilton County averaged 2.79 million tonnes of production. See, Potash Corporation of Saskatchewan Inc., Annual Report (Form 10-K), at 7 (Feb. 27, 2012). | 4-27 |
| X:26 | App. F, 13 | | | The text could be clarified by adding the following after the last full sentence ending at the bottom of the page 13 (i.e., following ". . . mines will be located."):<br><br>"**Although the mines were evaluated individually, the future mines are** | *Suggested clarification*.<br><br>.App F. Sec. 4.2 provides the individual mine economic impacts. It treats the Pine Level/Keys Mine and the Pioneer Mine as alternatives, respectively, to the Wingate East and Ona & South Pasture Extension | 4-136 |

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| | | | | **considered as foreseeable cumulative impacts in Chapter 4, Section 4.12, because they are expected to occur to supplement or replace production from the mining sites addressed in this AEIS.**" | and conducts the analysis with the assumption that the permits for Wingate East, Ona and the South Pasture Extension would not be issued. This may be confusing since the future mines are not substitutes for planned mines but are more accurately viewed as cumulative impacts. The text should explain the relationship between these future mines as alternatives and as cumulative impacts. | |

# Comment and Response Tables

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| **ENVCOMP-1** | | | **Commenters suggested that the Purpose and Need Statement was not appropriate and simply adopted the statement of the Applicants. Some suggested that the wording of the purpose and need only allows for rejection of the No Action Alternative. There also were comments that the Purpose and Need Statement should be restated to include specific wording that relates to environmental protection of resources like the Charlotte Harbor, water resources, and threatened and endangered species.** | **In accordance with the National Environmental Policy Act (NEPA), an Environmental Impact Statement (EIS) "shall briefly specify the underlying purpose and need to which the agency is responding" (40 Code of Federal Regulations 1502.13). The purpose and need statement is required to be a description of the purpose and need for the proposed project, which has been clarified in Section 1.2 and includes a description of the USACE'S basic and overall project purpose, the public need, and the Applicants' purpose and need. Each resource section in Chapter 4 addresses the effect of proposed mining activities on the respective resources. Section 5.7 discusses reclamation.** |
| 000000393-5 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | Project Purpose and Need begins on page 1-8 and ends on 1-16. It includes three purpose and needs statements. The three statements include 1.2.1 Publics Need (page 1-8 to 1-14), Mosaics Stated Purpose and Need (page 1-15) and CF Industries Stated Purpose and Need (page 1-16.) The public purpose is not included. The purpose and need statement is essentially the foundation of the NEPA decision-making process. It provides the rationale and justification for undertaking major federal actions. Section 1.2 of the DAEIS states: Pursuant to Title 33, Code of Federal Regulations (CFR), Part 325, Appendix B, while the ACOE generally focuses on the applicants statement of purpose and need, the ACOE exercises independent judgment in defining the purpose and need both from the applicants and the publics perspective. However, this judgment has not been exercised, given the three separate statements, especially not stating the public purpose. The three separate statements make it confusing regarding what the purpose and needs statement of the DAEIS is. During the scoping process, CHNEP recommended Executive Order 13274 Purpose and Need Work Group Baseline Report, dated March 15, 2005. This document can be found at: www.dot.gov/execorder/13274/workgroups/pnreport031505.pdf. The Purpose should state why the project is being proposed and articulate the positive outcomes that are intended. It should be a very clear, concise description of the primary goals the project is expected to attain (usually no more than one or two paragraphs.) The Need describes the key problem or problems that are being addressed. It is a | Included in summary response above. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| | | | description of the problems or unsatisfactory conditions that currently exist or are expected with the project area. | |
| 000000542-10 | Percy Angelo | Private Citizen | A. The Proposed Purpose and Need Statement is Improper The Corps has essentially adopted the applicants statement of the purpose and need for their phosphate mines: | Included in summary response above. |
| 000000542-11 | Percy Angelo | Private Citizen | This formulation closely mirrors the purpose and need statements proposed by Mosaic and CF. 1-14 and 1-5. | Included in summary response above. |
| 000000542-12 | Percy Angelo | Private Citizen | The Corps purpose and need statement is one which appears to lead to an AEIS which will ALWAYS approve the mining of phosphate without limitation, since that is the purpose against which all alternatives will need to be measured. It is improper on its face. | Included in summary response above. |
| 000000542-13 | Percy Angelo | Private Citizen | The purpose of an action as discussed in the AEIS must reflect the underlying reason for NEPA and AEIS analysis in the first place, the need to consider environmental impacts in federal actions. A purpose which predetermines the result is not consistent with NEPA or the regulations. | Included in summary response above. |
| 000000542-14 | Percy Angelo | Private Citizen | It is clearly inconsistent, for example, with the clear direction in the statute and regulations that a no action alternative be included and seriously considered. A purpose and need statement like the one proposed will always result in rejection of the required no action alternative. | Included in summary response above. |
| 000000542-28 | Percy Angelo | Private Citizen | In its zeal to allow the mining companies to mine everything they want, the Corps postulates a purpose and need which makes compliance with the law impossible. | Included in summary response above. |
| 000000542-29 | Percy Angelo | Private Citizen | The South Fort Meade extension comments supplied in those letters noted the Corps evolution in its purpose and need language as it sought to buttress its decisions to allow mining of every bit of phosphate which the mining companies ask for. This is a clear attempt to evade NEPA requirements and is arbitrary and unreasonable. | Included in summary response above. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| **ENVCOMP-2** | | | **Commenters also suggested that the Purpose and Need Statement was not appropriate because it did not make an adequate statement about environmental protection goals and asked that it be restated to include specific wording that relates to environmental protection of resources like the Charlotte Harbor, water resources, and threatened and endangered species.** | **As noted in Section 1.4 of the Draft and Final AEIS, the objectives of the AEIS are to analyze the direct, indirect and cumulative effects associated with the mine permit applications and alternatives to the requested permit actions. Section 1.4 also notes that "the over-arching goal of this AEIS is to support regulatory decision to be made by the USACE and other agencies..." Those regulatory decisions include requests to discharge dredge or fill material in Waters of the U.S. regulated under the Clean Water Act. In considering the permit applications, the USACE seeks to protect the Nation's aquatic resources, balance the reasonably foreseeable benefits and detriments of the project projects, and make permit decisions that recognize the values of the Nation's aquatic ecosystems to the general public. Chapter 1 has been revised to more clearly link the USACE's purpose and need in preparing the AEIS to its goals and objectives.** |
| 000000199-12 | | | Also, the purpose of the need statement, judging the alternatives, the purpose and need proposed by the Corps says: That a mine phosphate within the central phosphate district, and to construct the infrastructure to get that material to the beneficiation, to the fertilizer plant for processing.So, in other words, it's to make the mining easier. Thats the purpose of this study. There is nothing to protect the environment, or the central Florida phosphate district, or the industry, such as Charlotte Harbor. What's the most economical way for the region to benefit and not for the industry to benefit.There are other alternatives theyre not looking at that they could and the general economy would benefit from. For example, if they were hiring guys and trucks and driving them up here, thats a lot more jobs. Somebody has to drive those trucks.So, you know, and we dont use much water.Okay. But bottom line is, I think somewhere in the purpose and need statement, it should be that they should mine in a manner which protects the environment, and it basically insures that the health of the harbor is sustained throughout all the mining they plan to do, and reclamation they plan to do over the next 50, 60, 70 years, whatever it is. | Included in summary response above. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| 000000275-2 | Helen King | Private Citizen | Chapter 1 - Project Purpose and NeedThe Purpose and Need statement does not include the reason for the AEIS, which is the Corp's responsibility to protect the environment, especially the waters of the Central Florida Phosphate District. In addition, downstream assets such as Charlotte Harbor and the Myakka River ( an Outstanding Florida Water) should be protected via the Purpose and Need statement.Since the Purpose and Need is strictly to dig up phosphate ore, that allows mining in the entire CFPD and therefore the alternative of " no mining action" is null and void. | Included in summary response above. |
| 000000281-13 | Sandra Ripberger | Private Citizen | 2.2.5.2 This brief section concludes, Avoiding use of phosphate fertilizer would not meet the project purpose and need. It is apparent here and throughout the AEIS that the companys need to mine is the overriding purpose, not avoiding adverse impacts to waters of the U.S. | Included in summary response above. |
| 000000351-1 | Debra L Highsmith | Private Citizen | Chapter 1 Project Purpose Specifically, 1.2.2.3 USACE Defined Project Purpose and Need: RECOMMENDATION: The purpose and need statement should be revised include to minimize, to the maximum extent practicable, the adverse environmental effects to water, soils, and fish & wildlife in the phosphate area. The geographic scope of the DAEIS should be expanded to specifically include Charlotte Harbor. The purpose and need statement as written predetermines that phosphate mining, and separation and beneficiation facilities will occur without any attempt to minimize impacts. The purpose and need statement is defined so specifically, and without reference to protection of the environment, that it is designed to lead to mining of phosphate wherever it appears in the CFPD. The statement should reference the need to mine consistent with the need to protect the environment including Charlotte Harbor. | Included in summary response above. |
| 000000351-3 | Debra L Highsmith | Private Citizen | The project purpose pre-ordains current mining and continued unspecified mining in uplands. The project purpose should read something similar to the Mountain Top Removal Programmatic AEIS: Mountaintop Mining/Valley Fills in Appalachia Final Programmatic Environmental Impact Statement, the purpose of which was to reduce the adverse environmental impacts. The preferred alternative enhances environmental protection and improves efficiency, | Included in summary response above. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| | | | collaboration, division of labor, benefits to the public and applicants. The phosphate DAEIS draft does nothing of the sort and simply parrots the applicants wishes. | |
| 000000388-1 | Beverly Griffiths | Private Citizen | The purpose and need statement should be reconsidered and rewritten. It is completely biased in favor of phosphate strip mining every inch of land within the study area that is not already urbanized or placed into conservation, without any acknowledgment of environmental consequences. The statement should include a qualifier such as, in a manner that protects the environment, restores affected ecosystems and avoids negative downstream impacts. | Included in summary response above. |
| 000000542-15 | Percy Angelo | Private Citizen | Further, the statement as proposed by the Corps suggests that the Corps itself will be mining; in fact the Corps action, the federal action which creates jurisdiction, is to permit mining consistent with Section 404 of the Clean Water Act which is supposed to protect the water resources of the United States. Accordingly the purpose and need for an EIS addressing the Corps actions should include the environmentally protective role the Corps is directed to play. | Included in summary response above. |
| 000000542-16 | Percy Angelo | Private Citizen | The regulations say that the purpose and need should reflect the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action. 40 CFR 1502.13. In the instant case the agency, the Corps, is responding to the significant environmental impacts and effects of mining and its consequences. We believe the purpose and need for the project should be expressed as follows: The purpose of the proposed action is to review permit requests for phosphate mining in a manner which will protect the environment, promptly restore mined lands, and protect downstream uses. Similarly the need is to supply a reasonable public and private need for phosphate while protecting the natural environment. | Included in summary response above. |
| 000000553-25 | Percy Angelo | Private Citizen | The purpose and need statement is deficient in failing to include a component for environmental responsibility. As discussed in the Environmental Groups comments the purpose and need statement in the DAEIS is entirely deficient in its failure to include any environmental component in the discussion. This is wrong. The Corps, in implementing Section 404 of the Clean Water Act, has an environmental mission. A | Included in summary response above. |

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| | | | purpose and need statement which does not recognize that is insufficient. | |
| **ENVCOMP-3** | | | **Commenters suggested that other state and local regulations should be cited in the AEIS.** | **Sec. 152.25(b), of the CEQ regulations for implementing NEPA, states that a draft environmental impact statement will list all federal permits, licenses, and other entitlements that must be obtained in implementing a proposed project and . These requirements, as well as other federal regulations where compliance is required are identified in Chapter 6.** |
| 000000272-30 | Sarasota County, FL, Christine Robinson | County Government | Chapter 6, Compliance With Environmental Requirements, lists major federal regulations and executive orders that may apply to the various alternatives within the CFPD. This listing should be expanded to indicate the state and local regulations that may be applicable to the various alternatives within the CFPD. | Included in summary response above. |
| 000000369-42 | Manatee County, FL, Ed Hunzeker | County Government | Chapter 6: Compliance with Environmental Requirements\: 1. This Chapter should be expanded to include state and local regulation that may be applicable to phosphate mining in the CFPD. A copy of Ordinance 04-39, Manatee County Phosphate Mining Code is attached for reference. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000192-6 | ManaSota - 88, Glenn Compton | Environmental Organization | The DAEIS is deficient in any discussion concerning phosphate mineral conservation. | A comprehensive conservation program for phosphate has a number of elements including efficient recovery; processing; efficient use, particularly in agriculture; reuse; and recycling of the resource. While conservation of irreplaceable resources such as phosphate is desirable, effective conservation efforts will require a change in use of the mineral, and a change in state or national policy toward mineral management and conservation. These activities are outside of the purview of the USACE and inconsistent with the project purpose and need. A brief discussion of phosphate mineral conservation has been added to Chapter 2. |
| 000000199-15 | James Cooper | Private Citizen | This is another important point, probably my most, not my most important point. This is what I consider to be a problem, a NEPA problem and a violation of the national environmental clause here. Apparently, what Mosaic has decided to do with this area study, is they've taken two mines, one is called the Keys mine, and one was called Pine Level Mine.Well the Keys mine and Pine Level mine | The Desoto Mine is considered as an Applicants' Preferred Alternative and as a current action in the Final AEIS because Mosaic has applied for a permit under Section 404 of the Clean Water Act to mine that parcel. The Desoto Mine can be considered to have independent utility as a stand-alone project. The Pine Level/Keys Tract is considered as both an Offsite Alternative (in the direct and indirect effects analyses) |

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| | | | encompass both Manatee and Desoto counties, and they were sort of laying east to west in Manatee and DeSoto County.For whatever reason, and I dont know why, Mosaic decided to take the Keys mine, and Pine level mine and cut them like you would an apple, right down the middle, and the middle happens to be the county line. So everything in DeSoto County, that is both the Keys mine and the Pine Level mine, they're calling it the DeSoto mine. Its got another name now; they're calling it the DeSoto mine. Theyve left out 6,003 acres of the Keys Tract, thats in Manatee County, and they left out the 14,029 acres of Pine Level, which is on this map, which is in this EIS by the way, which is put together by Manatee County. So I think its probably valid. So they basically left out 20,000 acres of this combined Pine Level and Keys.According to NEPA rules, you can't cut a product in half. You have to consider it a whole. If its cut in half, its called tiering and its illegal. You cannot do it.Maybe what theyre trying to say is, we changed the name, so now its not tiering.Well you can change the name but the mine is still the mine area. And there are no other mine areas because you have the map of the mine area.So Im sorry, but this is a little bit over the top in terms of being in compliance with NEPA rules.This seriously needs to be looked at or its going to be looked at in Federal Court.First the CEQ is going to look at it and take it back to them. And the reason the CEQ is going to look at it is because I'm going to bring it to their attention.I 'm just trying to tell you that right now because that's important. I mean, if they're going to play the game, they have to play it by the rules. These are not state rules, these are federal rules. And these folks are not good at playing at federal rules because they've never done it before.They've never ever been thor an AEIS process. They started one for the Ona mine 13 years ago and they never completed it. And now suddenly it's coming back like Freddie in a ski mask. But they waited 13 years to do it.My point is, there's a reason that they waited. I 'm not sure what the reason was but there's a reason. So they have not had an evaluation of the federal rules here - never, ever. So it's about time, that if they're going to play by the federal rules that we follow the federal rules.And all of the federal rules, they're not hard rules, they're very well defined. All they need to do is to try to make sure you don't have significant impacts that can be | and as a reasonably foreseeable action (in the cumulative effects analyses). |

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| | | | avoided.That's all I'm saying theyre a big company, they spend a lot of money. They spent 13 million dollars to defend themselves for need. If they spent that money on AEIS, we'd have a product that's dynamite and we wouldnt have to be talking about this today.So why are they spending money on attorneys 11 when they could be spending it doing a better product?I would just like to see them put their hands up and say, we want to be cooperative with the community. They say that and they have really nice people working for the company. They have good corporate people, theyre all professionals, but somehow they just dont want to have to if they dont have to deal with those federal rules. | |
| 000000272-1 | Sarasota County, FL, Christine Robinson | County Government | The Sarasota County Board of County Commissioners has never expressed a position wherein all phosphate mining ceases in the Central Florida Phosphate District | Comment acknowledged. |
| 000000280-3 | Lee County, FL, Roland Ottolini, P.E. | County Government | We hereby request the Corps consider our comments and secure the proper resources in developing an adequate and comprehensive analysis for submittal and review. | Comment acknowledged. |
| 000000280-24 | Lee County, FL, Roland Ottolini, P.E. | County Government | 1.3 PROPOSED ACTION P. 1-24, line 17-21 The Hardee County Mining Overlay South Segment was included as a potential future mine along with two other sites (Pioneer and Pine Level/Keys Tracts). However, it was determined that the potential future mine should not be considered in the evaluation because ...insufficient information was available about the potential contribution of this parcel to cumulative impacts. Lack of information does not make an activity any less likely. The site should be assessed in detail in the cumulative impact assessment, especially surface and groundwater quantity and quality analyses, along with the other two potential future sites. P. 1-24, line 22-35 In-fill properties (parcels adjacent to or near proposed mine sites that may be acquired by the mine companies) are not considered in the impact analysis. Although in-fills are generally small compared to a mines total area they should be included to establish a cumulative effect. | The Alternatives Analysis (Appendix B) was revised based on additional information received during and following the comment period, which eliminated consideration of the Hardee County Mining Overlay alternative. Chapter 4 of the Final AEIS was revised to expand the evaluation of the offsite alternatives based on additional analyses as described in Appendices D (Water Quality), F (Groundwater), G (Surface Water) and H (Economics). Chapter 1 of the Final AEIS includes an explanation of why infill parcels were not included in the evaluation of alternatives, based on their relative size and potential impact. |
| 000000348-14 | Barbara Angelucci | Private Citizen | 1.8 Public Involvement 1-30 Public Interest Review must be done by the ACOE as it relates to all environmental issues that affect humans and health. It is imperative that the ACOE do this critical review. | As described in Section 1.6 of the Final AEIS, the USACE will conduct the public interest reviews and CWA Section 404(b)(1) analyses for the four similar permit applications in the project-specific records of decision-statements of finding (RODSOFs. |

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| 000000349-11 | Robert Fellman | Private Citizen | Doc Ref = Executive Summary, Section ES 5 Page = 4 Line = 11 through 12 Issue: NEPA and the USACE NEPA implementing regulations require consideration of a range of reasonable alternatives, including a No Action Alternative and the Applicants' preferred alternative. Problems with the No-Action Alternative. Comment: There does not appear to be a sound argument for the expansion of the Florida-based phosphate mining operations based on the need for the phosphate feedstock. According the USGS (See USGS October 2011, "2010 Minerals Yearbook, Phosphate Rock (Advance Release)", US Geological Survey, US Dept of the Interior.) , "World phosphate rock annual production capacity was projected to increase 26% from 2010 to 2015, increasing from 203 Mt (million tons) to 256 Mt, with more than 50% of the increase from Africa" | Chapter 1 and 2 (Section 2.2) of the Final AEIS discuss the relevant issues associated with the availability and reasonableness of importing phosphate. |
| 000000351-5 | Debra L Highsmith | Private Citizen | The process of performing this AEIS is needlessly entangled with the permitting of 4 new mines. NEPA requires one preferred alternative. By adding 4 new mines to this mix AND 20 other alternatives, the result of this DAEIS is a complicated matrix of preferred alternatives. This AEIS will be referred to in all future mining permits. I am disturbed that Mosaic comments directed this DAEIS by focusing on their specific, immediate projects as preferred alternatives. | Under the USACE NEPA implementing guidelines, the proposed action by an applicant is referred to as the Applicant's Preferred Alternative. With four proposed actions and two applicants, the AEIS has four Applicants' Preferred Alternatives. Since these proposed mines are similar actions with similar impacts in the same geography, it is appropriate that they be evaluated together. The other four alternatives considered are Offsite Alternatives, as none of them are currently the subject of a permitting action by the USACE. Section 1.6 of Chapter 1 of the Final AEIS describes actions that relate to permit issuance and decisions to be made by the USACE. |
| 000000365-1 | Carol Mahler | Private Citizen | Table 2: The following comments concern statements in Chapter 1 and Chapter that are related, so I am placing them here under Chapter 1, since they address the "Project Purpose and Need": The United States Army Corps of Engineers should reconsider Section 2.2.5.2 Alternatives Avoiding the Use of Phosphate Fertilizer. The first sentence, The USACE has determined that this alternative would not meet the project purpose and need is not supported. The USACE relied on the companies whose Clean Water Act section 404 permits from the U.S. Army Corps of Engineers are under review to state the purpose and need. Addressed in Table 12: In section 1.2.2.1, the need for phosphate mining is directly tied to large-acreage, agribusiness farms. However, the United Nations recent report on global economics stated: | The USACE, as stated in the AEIS, is neither an opponent nor proponent of the proposed applications. But under NEPA, the purpose and need statement is required to be a description of the purpose and need for the proposed project, which has been clarified in Section 1.2. The external factors that affect the balance of trade in the US and the decisions to stockpile or otherwise modify export or import decisions are not within the scope of the AEIS. |

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| | | | "There is overwhelming evidence that 'efficient' (industrial) agriculture is not only mining the natural resource base but also influencing other parts of the environment in ways that are detrimental to the well-being of humankind." In addition, the United State Department of Agriculture finds that small farms generate nearly 4% of the value of farm products in the U.S. Many of these small farms use methods of fertilization that do not use phosphorus obtained from mined phosphate rock. (USDA ERS September 2. ERS Farm Typology for a Diverse Agriculture Sector. Agriculture Information Bulletin Number 759.) Some are part of the growing Community Supported Agriculture farm movement that between 199 and 24, these farms increased 3 times (McFadden, Joe, The History of Community Supported Agriculture, Part II). Even discounting the incredible growth of Community Supported Agriculture, mining phosphate rock in Florida is not necessary for the U.S. or the world according to the AEIS itself: Even with the decline of Florida phosphate rock production and the anticipated increase in worldwide demand, there does not appear to be a worldwide shortage of phosphate rock (p. 1-11, lines 1-11). A contradiction also appears to state that the U.S. must import phosphate for its needs (p. 1-11, lines 15-16); yet almost half of the wet process phosphoric acid produced in the U.S. is exported (p. 1-9, lines 33-36). Stockpiling the amount exported would seem a better safeguard than new mines against the predicted demand for fertilizer, especially when future trends in agriculture may not require it. This logic contradicts the stated purpose and need provided by CF Industries South Pasture Extension (SAJ-1993-1395) application: Continued mining of phosphate rock is therefore critical to the agriculture industry as well as the general population both U.S. and globally. Maintaining a domestic food supply is also important to national security (p. 1-16, lines 18-2). | |
| 000000369-37 | Manatee County, FL, Ed Hunzeker | County Government | Chanter 4: Environmental Consequences: This chapter's purpose is described as identifying and evaluating direct, indirect, and cumulative effects-expected to-occur as a-result of implementing-each alternative-with consideration to federal, state, or local requirements for protecting the environment and the level of public concern about potential impacts. The Manatee County Scoping letter provided a | The final AEIS has been expanded based on the comments on the Draft AEIS received by Manatee County and other commenters. The changes include additional analyses related to water resources, natural resources, and economics, in particular, to address direct, indirect, and cumulative effects. |

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| | | | summary of twelve items of potential impacts and problems. Although portions of these items were discussed in the draft AEIS, significant concerns remain. | |
| 000000371-14 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The draft AEIS defines the "No-Action Alternative" as continued existing permitted mining, plus any new mining that might occur only on uplands that is mining in uplands only, is the standard against which the alternatives are assessed. While the No-Action alternative as defined would not require permits, it seems disingenuous to assume that mining uplands only, near existing wetlands, streams, rivers, etc., wouldn't have impacts on a number of the identified criteria. Natural/Ecological Resources Water Resources, including Groundwater and Surface Water Water Quality Economics A pretty strong case could be made using existing literature that mining uplands surrounding wetlands, streams, and rivers would have impacts on water resources. While the ACOE may not be the lead permitting agency, I would assume that they would be a commenting agency on these same issues. Hard to imagine that mining just uplands wouldn't influence these same criteria, although ACOE 404 permits might not be required. "Surficial Aquifer System (SAS) Effects: Phosphate mine operations can impact the SAS in a number of ways. The most direct impact is associated with the nature of phosphate mining as practiced in the Central Florida Phosphate District (CFPD), which involves extensive earthwork within the SAS itself Groundwater dewatering, as needed, is accomplished through pumping of the SAS either from a network of shallow wells or through excavation of pits and pumping of water out of the pits. By its very nature, dewatering lowers the localized water table and if environmentally sensitive habitats are located within the zone of influence of the dewatering operations, the potential exists for hydrologic impacts to occur because of this drying out influence. Piezometer monitoring records along a number of ditch and berm systems operated by the Applicants at their existing mining operations were reviewed, and these documented that at some locations, dewatering appears to have reduced water table elevations in the monitoring wells by amounts in excess of 20 feet". "Phosphate mining has the potential to affect the water quality of surface waters draining off of or downstream from, | As noted, the USACE has no regulatory authority over mining in uplands, but has considered the effect of the alternatives described in Chapter 2 relative to No Action Alternative with and without upland mining. Each of the resource sections in Chapter 4 of the Final AEIS describes the related impacts for the two No Action scenarios. |

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| | | | mined or reclaimed lands. It also has the potential to affect groundwater quality, with the greatest potential effects on the shallow aquifer underlying such lands" The above two statements seem to directly conflict with the underlying assumption of allowing mining of "upland areas only" without further ACOE review since such actions can be expected to negatively impact adjacent wetlands and stream flows. | |
| 000000371-38 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The fact that the ACOE has chosen not to do a programmatic EIS for phosphate mining doesn't seem consistent with their rational for doing one for land develop in Lee and Collier Counties. The ACOE has done lots of programmatic EIS's for many area wide assessments where no new rules or regulations were under consideration, but rather changes in policies. Why isn't the ACOE actually considering potential new rules/policies under alternative 404 permitting when it comes to mining in the CFPD? Doesn't the entire discussion of buffers in the AEIS negate the underlying assumption, since buffers of such sizes would be an expansion of policy under the ACOE current permitting of phosphate dredge and fill permitting? | Section 1.4 provides an explanation of the decision-making related to a programmatic versus areawide EIS. The evaluation of buffers included in the Draft AEIS was in response to comments received during scoping. These buffers were determined to not be reasonable; a requirement under NEPA, and therefore the Final AEIS follows an alternative approach to evaluate the on-site impacts. Chapter 5 of the Final AEIS discusses in detail a conceptual mitigation approach that the USACE will consider as part of their review of permit applications. |
| 000000371-87 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Economic The presented economic impact assessment evaluates direct, indirect, induced, and total net benefits. These same criteria need to be assessed under environmental also, which shouldn't be limited to just the direct presented impacts. | Direct, indirect, and cumulative impacts are discussed for each of the resource categories in the Final AEIS in Chapter 4. |
| 000000372-1 | Rachel Renne | Private Citizen | I am a lifelong resident of DeSoto County, and a property owner therein. I am writing with regard to the consideration of the application for the Clean Water Act permit for phosphate mining in the Central Florida Phosphate District. After reviewing the Environmental Impact Statement prepared by the Army Corps of Engineers and personal consideration of the issue, it is clear that the election of the No Action option is the favorable avenue for our future. | Comment acknowledged. |

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| 000000378-1b | Winchester Environmental Associates, Inc., Brian Winchester | Company | That being said, the USACE (and their third-party contractor) are nevertheless obligated to fully apply their technical knowledge, past experience, and professional judgment to the data and assertions being supplied by the applicants. It is inexcusable to present data and information as if they are factual and reliable when the USACE and/or AEIS authors are fully aware of contraindications. Based upon my review of the draft AEIS to-date, it is my professional opinion that the draft AEIS as issued is biased, inaccurate, and incomplete. Some of my reasons for this conclusion are explained in the comments to follow. Furthermore, it is my opinion that the AEIS should not be finalized, nor should agency action be taken on the four mining ERP/section 404 permit applications, until the deficiencies of the draft AEIS have been properly addressed. | Comment acknowledged. |
| 000000378-2 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 2: The USACE has elected not to identify or disclose a number of highly relevant technical documents that were submitted to USACE specifically for consideration in the AEIS review. To be able to perform an independent review of the AEIS and provide meaningful comments, the public must have access to the same major documents and data sources that the USACE and the AEIS authors had access to. At a minimum, this should include documents that were formally submitted to the USACE for their consideration. While it is understood that this represents an enormous amount of material that most reviewers will not take the time to go through, the reviewer should nevertheless be able to identify the presence of and access relevant data and documents without resorting to unusual measures. This is particularly true for studies and analyses commissioned by either the USACE or the mining companies in anticipation of the AEIS being developed. Under no circumstances should the public be hindered from learning of the existence of relevant data and documents due to non-disclosure by the USACE. To be effective, the public comment process must be free of all forms of information suppression. | All documents and their relevant data, including published, unpublished, and electronic media, that were used in the preparation of the Final AEIS or used to support conclusions are included as part of the Administrative Record, as required by NEPA. |
| 000000389-2 | Helen Comfort | Private Citizen | I was happy when I came to Ch 4.Environmental Consequences. 4.2.2.1. DWRM 2 Analytical Overview No Action Alternative CH 1 No Action Alternative CH 2 | Comment acknowledged. |

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| 000000392-1 | The Sulfur Institute, Harold H Weber | Non-profit Organization | The draft Area-wide Environmental Impact Statement (AEIS) on phosphate mining in Florida released by the Corps is a good start to assuring a continuation of phosphate mining and subsequent fertilizer production in the United States. We agree with draft conclusions that effects of fertilizer production are not part of this AEIS; it addresses only phosphate rock mining. | Comment acknowledged. |
| 000000393-1 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | The letter was developed according to our adopted Advocacy and Review Procedures, which serve to implement Executive Order 12372, dated September 17, 1983. This letter primarily implements CCMP Action SG-P: Incorporate into federal, state and local permits and public works improved standard practices that better protect estuaries and watersheds. | Comment acknowledged. |
| 000000393-22 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP further requests that all alternatives be quantitatively assessed as requested in the second section of this letter (methodological treatment of alternatives. | The Final AEIS includes additional quantitative and qualitative analysis, as appropriate, for each of the alternatives. |
| 000000397-4 | US Environmental Protection Agency, William L Cox | Federal Agency | 2. DAEIS Purpose and Need Pursuant to Title 33, Code of Federal Regulations (CFR), Part 325, Appendix B, the USACE appropriately considered the Applicants' statements of purpose and need for additional phosphate mining, but also considered the purpose and need from the public's perspective. The Applicants generally stated (for each of the proposed mines) that their purpose is "to maximize extraction of phosphate ore from the known mineral reserves located within a practicable pumping distance" from the various ore separation and beneficiation plants and "to maintain production capabilities of existing beneficiation facilities at optimum production levels." The Applicants also indicated their desire to "economically extend the life of mining facilities and beneficiation plants for as long as practicable by mining all commercially available phosphate reserves." In order to guide its evaluation of the proposed project, both for purposes of NEPA and the AEIS, and the USACE's evaluation of the associated applications for permits under Section 404 of the CWA pursuant to the Section 404(b)(1) guidelines (40 CFR 230) and the public interest review, the USACE appropriately considered the purpose and need "in terms of a basic project purpose and an overall project purpose." The overall project purpose, as defined by the USACE, forms the basis for the USACE's evaluation of | Comment acknowledged. |

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| | | | reasonable alternatives under NEPA. EPA notes the USACE's basic project purpose for each of the four similar actions under review in this AEIS is "to extract phosphate ore, and the overall project purpose is to extract phosphate ore from the mineral reserves located in the CFPD and to construct the associated infrastructure required to extract and process the phosphate ore at separation/beneficiation facilities recognizing that the ore extracted must be within a practicable distance to a new or existing beneficiation plant." EPA concurs with the USACE's objectives of the AEIS to analyze the direct, indirect, and cumulative impacts/effects associated with the four similar permit applications for mining of phosphate within the CFPD, including those indirect and cumulative impacts that extend to areas outside of the CFPD. EPA also concurs with the USACE's goal to describe and assess the "no-action" alternative and other reasonable alternatives to the four similar proposed mining projects for which CWA permits are sought. Finally, EPA concurs with the USACE's "over-arching goal" of this AEIS "to inform agencies, other stakeholders, and the public of the impacts and alternatives to the four similar permit applications for phosphate mines." EPA Recommendation: The Final AEIS (FAEIS) should be sufficiently thorough and detailed enough to fully support the USACE regulatory decisions regarding the four specific proposed mine projects, as well having an additional capacity to inform USACE regulatory decisions regarding future phosphate mining permit applications. | |
| 000000542-3 | Percy Angelo | Private Citizen | Unfortunately we believe the resulting draft fails to comply with AEIS requirements in significant and material ways. | Comment acknowledged. |
| 000000542-9 | Percy Angelo | Private Citizen | The data which the DAEIS refuses to consider proves otherwise; this is antithetical to the letter and spirit of the National Environmental Policy Act (NEPA). | Comment acknowledged. |
| 000000542-33 | Percy Angelo | Private Citizen | The mining companies and the Corps appear to anticipate that the entire CFPD will essentially be abandoned to mining, or to neighboring mining. | The only areas in consideration for mining under this AEIS are the Applicants' Preferred Alternatives and/or one or more of the four offsite alternatives that would meet the Purpose and Need. Cumulative impacts of these alternatives are described in Chapter 4. |

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| 000000542-41 | Percy Angelo | Private Citizen | The DAEIS claims that it is not a programmatic EIS. If this is thought to be justification for the limited analysis provided, as discussed below, it is improper. With the improper purpose and need statement, the failure to evaluate cumulative impacts, over space and over time, as further discussed below, and the other errors such as the exclusive use of downstream and long term average data, also discussed below, the Corps has effectively abandoned the CFPD to mining and its impacts. | Section 1.4 provides an explanation of a programmatic versus areawide EIS. The Final AEIS includes an expanded discussion of the project Purpose and Need. Chapter 4 has been expanded to include analysis of impacts to surface water resources, groundwater resources, and economics, including an expanded discussion of cumulative impacts. |
| 000000542-147 | Percy Angelo | Private Citizen | R. The DAEIS Fails to Contain a Public Interest Review The Clean Water Act requires that a public interest review be conducted to support the issuance of a permit under section 404 of that Act. We understand that USEPA has urged the Corps to conduct a public interest review in the AEIS. Clearly that has not been done. Indeed, as discussed below, the bias shown in the document, and its domination by the mining companies, indicates that the public interest has been pushed to the background throughout the discussion. A public interest review is also contemplated by the Corps own Environmental Operating Principles (EOP) which call for its decisions to achieve environmental sustainability, seek balance and synergy among human development activities and natural systems, and accept responsibility for activities that impact human health and welfare and the continued viability of natural systems. The commitment contained in the EOPs should be a part of the DAEIS. We believe a discussion of the public interest is required by NEPA and we urge that the DAEIS contain such a discussion. | Section 1.6 of the Final AEIS discusses the timing of USACE public interest reviews and CWA Section 404(b)(1) analyses for the four similar permit applications and provides a figure showing the relationship between NEPA and the permit decision-making process. |
| 000000542-160 | Percy Angelo | Private Citizen | Throughout the DAEIS the document makes very questionable assumptions about future events. One of the most obvious, and troubling, is the assumption that SWFWMD limitations on groundwater use will be enforced without change and will prevent any increases. This assumption underlies all of the groundwater discussion. There is also an assumption which permeates all discussions that wetlands restoration is effective, an assumption presented without evidence. Other assumptions are based on an actual, or pretended, lack of information, which the Corps declines to assemble, e.g. radiation exposure data for formerly mined sites, groundwater monitoring around CSAs, mines and processing plants, analyses of before and after | Chapter 4 has been expanded to address comments raised on groundwater and monitoring, and radiation. Assumptions underlying the analyses, including concerning future groundwater usage, are based on current regulations and policies and there is no basis for assuming they would not be implemented as planned. Chapter 5 discusses potential mitigation and monitoring that would be incorporated into a potential permit decision. Alternative permit review schedules are a consideration that has been discussed by the USACE and other agencies but is outside the scope of this AEIS. |

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| | | | mining impacts for Little Charlie Creek, and etc. If and when this information becomes available it could dramatically change the basis for the DAEIS analysis and permits and their terms may need review and reconsideration. Shorter term or reviewable permits are urged by the agencies charged with protection of our natural resources and should be considered in the DAEIS. The DAEIS should require that the effectiveness of permit compliance and mitigation be monitored and supplemental EIS documentation prepared if assumptions are not borne out in practice. | |
| 000000542-161 | Percy Angelo | Private Citizen | The Corps choice of CFPD and its Purpose and Need make true alternatives and mitigation impossible-We have noted above that the definition of the CFPD is improper and that the purpose and need statement makes mining of almost the entire CFPD inevitable. Demonstrating the impropriety of this approach, there is no point at which the AEIS calculates the cumulative number of wetland acres and stream miles to be lost to mining and considers whether there is even enough capacity in the Peace, Myakka and related watersheds to make up that loss in mitigation. In addition to the failure to make a cumulative assessment, the AEIS has defined a study area and a purpose and need statement which make mitigation impossible. -There are reasonable alternatives which should be considered-It is unclear why the AEIS does not consider some very reasonable alternatives to the mine-everything scenario. The AEIS recognizes that the quality of phosphate in the future will be lower, and harder to get, and FIPR indicates it will be subject to undesirable constituents. Alternatives which call for reasonable setbacks from streams, preservation or conservation easements along significant streams and protecting valuable wetlands, aggressive and innovative methods to reduce water use and supplementation of any lost rock production with imported phosphate are achievable (as illustrated at South Fort Meade) and should be evaluated in the AEIS. | Chapter 2 and Appendix B provide a revised discussion of offsite alternatives considered reasonable for further consideration based on new data, including prospecting data for many of these alternatives. The approaches to minimizing and avoiding impacts are discussed in Chapter 4 and 5, including a discussion of the approach to be followed by the USACE in reviewing applications to determine the Last Environmentally Damaging Practicable Alternative among those considered. The issue of importing phosphate rock is discussed in Chapter 2. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| 000000547-19 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Transportation. The DAEIS limits transportation-related impacts to infrastructure corridors (pipelines, access roadways and dragline walking paths) and an acknowledgment that new mining operations may require changes in local and regional traffic patterns and new railroad connections to allow transport of phosphate rock out of the area to fertilizer manufacturing facilities. There is no analysis of the impact of potential new railroad lines, or of new truck hauling routes, on regionally-significant transportation facilities. | Section 3.1 of the Final AEIS discusses the need for various transport corridors. Potential traffic-related impacts are discussed in Section 4.1.8 of the Final AEIS, which addresses potential rail, truck and pipeline transport needs. |
| 000000550-1 | POW & LBC, James Cooper | Environmental Organization | MAJOR FLAW: PURPOSE & NEED STATEMENT: It appears the Army Corps does not fully understand NEPA rules and has simply used the Annex K Letter request from the Mosaic Counsel to narrowly define the basic purpose of this Area Wide Study of the CFPD is simply to expeditiously mine Phosphate. It omits and disregards the need to use the EPA requested and Army Corps agreed to a basic watershed approach in the Area Wide study, which balances the mining needs with at the same time avoiding via mining the degrading any EPA defined ARNI resources. See the instruction provide to the Army Corps from the EPA at Atch ---- . The Army Corps is also required to follow the 2008 Federal Rules on Aquatic Mitigation, which requires a watershed approach and this will be discussed in more detail later on. | The Final AEIS has been expanded where appropriate to consider a broader watershed approach including additional modeling of water resources in the watershed. These analyses are in Chapter 4. The determination of site specific impacts to ARNIs will be made by the USACE as part of the application review and Chapter 5 includes a discussion of the conceptual approach that the USACE may use in evaluating impacts to avoid, minimize, and/or compensate any adverse impacts to important natural areas. |
| 000000550-3 | POW & LBC, James Cooper | Environmental Organization | As the ACOE is the Lead agency for this DAEIS, clearly it is incumbent upon the ACOE to correct the above noted deficiencies (and more to follow) ASAP. Quite simply, what is required by the ACE is an expanded new DEIS, which has provides corrections for omitted NEPA elements outlined below and has the scope and time frame extended at least 90 more days! NOTE: There is recent ACE precedent for this in the recent Auroa Mine Case in North Carolina where a Supplemental Draft EIS (SDEIS) was in fact published in 200, correcting many original Draft EIS major deficiencies. The irony here is that this was just a single Phosphate Mine Case where insufficient alternative data information was initially presented by the ACE. The Final DEIS for this mine was approved in 2009. | Comment acknowledged. The Final AEIS has been expanded to incorporate responses to comments to the Draft AEIS including a revised evaluation of offsite alternatives (Chapter 2 and Appendix B), additional modeling of groundwater and surface water resources and potential economic impacts (Chapter 4), and the development of a conceptual mitigation framework (Chapter 5). |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| 000000550-4 | POW & LBC, James Cooper | Environmental Organization | MAJOR FLAW in SCOPE: The new Supplemental CFPD DAIES also should include all 6 Future mines in the CFPD area & not just the 4 listed future mines in the current CFPD study. By tangential (other alternatives) references these 2 extremely large new Mine areas are planned, clearly foreseeable & will require Army Corps Sect. 404 CWA Permits, such as: (5) PIONEER (Hardee Co) and (5) PINE LEVEL-KEYS (Manatee Co). | As described in Chapter 2, the Final AEIS includes an evaluation of the Applicants Preferred mines, and analyses using available data for the two foreseeable future mines as part of the cumulative impacts analysis. Although two other offsite alternative locations were evaluated to meet the requirements under NEPA for considering other alternatives to those proposed, there is no indication that those locations are likely to be considered in the foreseeable future. |
| 000000550-32 | POW & LBC, James Cooper | Environmental Organization | Lack of a Valid - Environmentally Preferred Alternative - Per: Fed. Register. Vol 46, No. 55, Mar 23, 1981, 40 most asked questions on CEQ NEPA regulations: Section 150.2 in cases where an EIS has been prepared: The Lead Agency must ensure that the preferred alternative must be objectively prepared and not slanted to support the choice of the agencys preferred alternative over other reasonable and feasible alternatives. The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed in NEPA Sect. 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment and meets the basic gals of the proponents project. It also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources. Lastly: if significant impacts are associated with the proposal, an environmentally preferred alternative should be suggested or a new alternative propsed. The suggested alternative should be both reasonable and feasible. In this context, such an alternative is one that is practical in the technical, economic and social sense, even if the alternative in outside the jurisdiction of the lead agency. Clearly, the present CFPD DAEIS has an Industry slanted, biased, preferred alternative, which is not reasonable - as it currently allows harmful impacts to a large % of wetlands (nearly 50%) which might be avoided. It does not make social sense - as it drops stream flows at times to perilously low levels, which directly impacts the headwater systems vital to the Harbors health. It is Not an alternative which best protects, preserves and enhances the regions natural resources. A better Environmentally Preferred Alternative or NEW Alternative is needed, which clearly meets all of these important NEPA criteria. | The Final AEIS adheres to the CEQ NEPA regulations as described in Chapter 1, and provides an objective assessment of both the Applicants' Preferred Alternatives and other alternatives that appear to be reasonable and feasible beyond those proposed. The cited regulations require the identification of an environmentally preferable alternative in a Record of Decision, not an EIS. The Records of Decision for the four projects will include environmentally preferable alternatives. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| 000000553-15 | Percy Angelo | Private Citizen | There is no need for the CFPD phosphate rock and the record shows that the mines addressed in the DAEIS are simply intended to provide low cost inputs for the CFPD companies to ship their fertilizer abroad. | Chapter 1 discusses the need for phosphate rock. It s beyond the scope of this AEIS to consider business decisions made by the Applicants. |
| 000000553-16 | Percy Angelo | Private Citizen | The report of Professor Richard Weisskoff, filed with the Environmental Groups comments, filed separately by email on July 27, and attached with these comments, show that the premises behind the Purpose and Need assessment and the economic discussion in the DAEIS, Section 4.7, are false. See 1-8 to 1-11. | Chapter 4 and Appendix H of the Final AEIS include an expanded discussion of the economics analysis. Comments attributed to Professor Weiskoff are addressed in the responses to economic comments. |
| 000000553-17 | Percy Angelo | Private Citizen | The US phosphate is not needed to feed the world. | Chapter 1 of the Final AEIS notes the amount of phosphate produced and distributed within the US. |
| 000000553-18 | Percy Angelo | Private Citizen | Foreign phosphate rock production is not concentrated in a relatively small part of the world lacking political security. | Chapter 1 and 2 discuss the relevant issues associated with the availability and reasonableness of importing phosphate. |
| 000000553-20 | Percy Angelo | Private Citizen | Contrary to the assumptions made by the Corps in the past, Weisskoffs report and the USGS data filed with the Environmental Groups comments show that the world is awash in phosphate, phosphate from stable reliable countries (the DAEIS reports most phosphate comes from Africa, 1-10, in fact it comes from Morocco, a stable African country), and more sources are being developed every day. Many US phosphate companies import that phosphate to feed their US fertilizer plants. Mosaic itself used imported phosphate for its US plants when mining from the South Fort Meade extension was enjoined, and it managed to make a good profit during that period, showing that for Mosaic, as for the other companies, use of imported phosphate is economically feasible and practicable.The Florida US phosphate companies then export their fertilizer product to the world (other US phosphate companies are more focused on the US market), again at a very healthy profit. | Chapter 1 and 2 (Section 2.2) of the Final AEIS discuss the relevant issues associated with the availability and reasonableness of importing phosphate. It is beyond the scope of this analysis to regulate the profits of the applicants. |
| 000000553-24 | Percy Angelo | Private Citizen | If our US phosphate rock supplies are dwindling, 1-10, why would our goal be to sell even more of the US rock abroad as fertilizer? This is not simply an environmentalist perspective, as Charles Munger (legendary investor, Vice-Chair of Berkshire Hathaway and Republican) has said about oil, he believes we should protect our domestic reserves and instead use foreign reserves first. | As discussed in Chapter 1 the majority of the phosphate mined in the CFPD is used in the US and has from time to time required additional import to the US rather than export. |

## NEPA Compliance

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment Text | Response to Comment |
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| 000000553-31 | Percy Angelo | Private Citizen | The AEIS has been so defined and limited that it is insufficient under NEPA.The Corps has decided that its AEIS is not programmatic. Indeed in some ways it is not even areawide since the Corps has endeavored to pretend that it is only about four mining applications and certain limited alternatives which are really future mines. It has excluded fill-in parcels and small mines that it intends to permit through alternative procedures. | Chapter 1 of the Final AEIS includes an explanation of why infill parcels were not included in the evaluation of alternatives, based on their relative size and potential impact. |
| 000000553-32 | Percy Angelo | Private Citizen | But the EIS for phosphate mining in fact should address the mining program itself, to examine the overall impacts, the need, and the best management practices. To date mines have been addressed on an ad hoc review basis. The DAEIS actually argues that the individual future mines discussed should also be addressed individually, that mitigation, for example, should not be addressed until the individual permitting stages. The result, along with the exclusions noted above for cumulative analysis, downstream/Charlotte Harbor impacts, gypstacks, radiation, etc., is a DAEIS that is so truncated, so limited and tightly defined, as to be essentially emasculated. | Chapter 1 of the Final AEIS provides clarifications on the scope of the AEIS and USACE regulatory authority, as well as related oversight and permitting under the jurisdiction of other agencies. Chapter 4 provides an evaluation of each of the Applicants' Preferred Alternatives, and the four offsite alternatives, as well as cumulative impacts associated with the Preferred Alternatives and other reasonably foreseeable actions. It includes an evaluation of potential impacts to Charlotte Harbor. Chapter 5 provides an expanded discussion of mitigation. Considerations that may be made by the USACE as part of their permit decisions. |
| 000000553-33 | Percy Angelo | Private Citizen | Anything remotely problematic is defined out of the document. The document does not represent the hard look that is contemplated by NEPA. We urge a substantial revision of this document that properly defines purpose and need, that recognizes the limited role Florida phosphate should play in the world market, that supports the use of imported phosphate as an alternative and that includes the cumulative analysis, data inputs and central issues, including gypstacks, spills and radiation, which are discussed above and in the Environmental Group comments. | The purpose and need discussion has been clarified in Chapter 1 of the Final AEIS. Chapter 2 discusses the issues associated with importing phosphate, and Chapter 4 discusses cumulative impacts of gypsum stack spills and radiation. Chapter 1 clarifies the basis for phosphogypsum stacks not being part of the scope of this AEIS. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **GW-1** | | | **Various commenters raised issues related to the effects of mining on the Surficial, Intermediate, and Floridan aquifers recharge and drawdown, cumulative impacts, and the depth of mining with respect to the aquifer confining layers,and requested greater quantification and analysis of impacts.** | **The results of revised groundwater modeling presented in the Final AEIS Appendix F include evaluations of Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer(UFA) within the footprint of individual mines, as well as cumulative mining effects on aquifer levels. Pumping conditions in 2010 are assumed to represent baseline conditions and are based on permitted quantities for all users, including public, recreational, agricultural, industrial and mining (not actual use). Appendix F includes water level data from the ROMP SAS, IAS, and UFA wells, and evaluates potential water level effects during mining. Drawdown simulations are provided for cumulative impacts with all other groundwater users pumping including the agricultural withdrawal reductions anticipated by the SWFWMD SWUCA Recovery Strategy with the mine withdrawals, and for mine withdrawals only without the agricultural withdrawal reductions. The revised groundwater modeling presented in the Final AEIS Appendix F includes drawdown simulations with all other well users and the mines pumping (cumulative) and simulations of drawdown impacts from mine pumping only (without the agricultural withdrawal reduction). The effect of clay settling areas are incorporated into the recharge evaluation in the model. Since the upper Floridan underlays the intermediate aquifer, pumping the Floridan will not result in upward migration of brackish water into the intermediate. Groundwater use is permitted by the SWFWMD (Water Management District). The Water Management District takes into account all other users when considering an application and the withdrawal amounts of all other users in the DWRM2.1 model are included in a table.** |
| 000000015-2 | Kristi Patel | Private Citizen | Waters not included in data ie. SWFWMD permits for pumping:..ie. De-watering process and re-circulation usage is not quantified and is potentially in the drastic impact category. This is scientifically quantifiable and indicated by the above reference. Removal of the confining layers has coke bottle effect and draws water from surrounding surface waters and surficial acquifers.Consider This strongly supports that this industry has access to an inordinate piece of the pie..in limited waters that are available for public interest. | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | These waters in pretense are returned however in theory only; as much gets tied up in clays and settlement areas. | |
| 000000272-4 | Sarasota County, FL, Christine Robinson | County Government | Additionally, the County has concerns about mitigation, aquifer recharge and drawdown, and cumulative impacts that should be addressed in the final document | Included in summary response above. |
| 000000272-14 | Sarasota County, FL, Christine Robinson | County Government | Chapters 3 and 4 of the draft AEIS do not provide a sufficient analysis of the impacts of impervious materials like clay settling areas and clayey materials used as backfill in deep mine cuts that would reduce the lateral recharging of this locally very important intermediate aquifer. The intermediate is the dominant aquifer for private wells because it is suitable for consumption with modest treatment methods. In addition, insufficient analysis is given to the potential for saline upwelling from the Floridan into the intermediate rendering wells in these counties unusable for private consumption. | Included in summary response above. |
| 000000272-65 | Sarasota County, FL, Christine Robinson | County Government | Both the cumulative (all combined mining) and the incremental (individual new mines) effects of mining on regional aquifers should be evaluated. | Included in summary response above. |
| 000000272-66 | Sarasota County, FL, Christine Robinson | County Government | Withdrawal of groundwater for industrial supply is only part of the equation also need to evaluate the potential reduction/loss of recharge to the aquifer. | Included in summary response above. |
| 000000272-70 | Sarasota County, FL, Christine Robinson | County Government | Post-mining surficial aquifer characteristics are greatly different from pre-mining conditions some evaluation of the change in the hydrology of the surficial aquifer is warranted. | Included in summary response above. |
| 000000272-73 | Sarasota County, FL, Christine Robinson | County Government | Completely ignored evaluation of impacts to intermediate aquifer system. | Included in summary response above. |
| 000000272-91 | Sarasota County, FL, Christine Robinson | County Government | 3.3.7.6 Regional Water Supply No acknowledgement of Sarasota County's reliance on the intermediate aquifer system as a water supply. Need to incorporate an evaluation of the recharge area for the intermediate aquifer into the study. | Included in summary response above. |
| 000000272-92 | Sarasota County, FL, Christine Robinson | County Government | Only addresses Floridan Aquifer withdrawals does not examine changes in groundwater recharge rates. | Included in summary response above. |
| 000000272-98 | Sarasota County, FL, Christine Robinson | County Government | 4.4 Groundwater Resources Simulation results need to include impacts to surficial and intermediate aquifer systems as well as Floridan Aquifer. | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000272-99 | Sarasota County, FL, Christine Robinson | County Government | Results presented showing individual incremental impacts for each proposed mining Alternative, not just for the overall cumulative impacts individual mines show drawdowns in the Floridan Aquifer of up to several feet corresponding impacts to surficial and intermediate systems need to be shown as well. | Included in summary response above. |
| 000000272-100 | Sarasota County, FL, Christine Robinson | County Government | Model parameters do not appear to have been revised to reflect reduced recharge due to increased runoff and/or baseflow as a result of mining and reclamation activities. | Included in summary response above. |
| 000000393-12 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | Groundwater monitoring well data are available for the surficial aquifer system (SAS), Peace River aquifer, upper/lower Arcadia aquifer, Hawthorn group and Floridan Aquifer System (FAS). In general, Peace River aquifer, upper/lower Arcadia aquifer, Hawthorn group are included in the Intermediate Aquifer System (IAS.) CHNEP requests a presentation of the monitoring well data and a discussion of how the alternatives may or may not affect the water levels within these units. | Included in summary response above. |
| 000000393-13 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the analysis which models Floridan aquifer impacts only. | Included in summary response above. |
| 000000393-14 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of analysis provided for SAS impacts. Page 3-59 and 3-60 lists a number of way that phosphate mining can impact the SAS, including extensive earthwork, dewatering and changed surficial soils, including addition of clay. The section states that the issue is addressed in Chapter 4. However, no analysis of the alternatives relative to these issues is presented in Chapter 4. The DAEIS is internally inconsistent where analyses are promised and not provided. | Included in summary response above. |
| 000000393-15 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of analysis provided for IAS impacts. Analysis relative to the IAS water levels is limited to Page 3-60 and concludes that within the Polk County area (the IAS) provide conveyance routes between the SAS and the FAS but such features are less frequently encountered to the south within the Peace River watershed. In the area, wells are permitted to use the IAS. CHNEP requests that analysis of impacts of alternative groups to the IAS be conducted given that conveyance route features between the SAS and FAS, | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | through the IAS, are less frequent but present. | |
| 000000542-63 | Percy Angelo | Private Citizen | F. The DAEIS Groundwater Evaluation Fails to Address Central Issues. -The DAEIS never evaluates the mining impact on the surficial and intermediate aquifers. The sole groundwater analysis provided in the DAEIS is for the Floridan aquifer. As discussed below, that analysis is seriously insufficient, but the initial, surprising, problem with the DAEIS discussion of groundwater is the total failure to say anything about the effects of mining on the surficial aquifer, which feeds the streams and wetlands, and the intermediate aquifer below it. | Included in summary response above. |
| 000000542-65 | Percy Angelo | Private Citizen | Data indicates that Mosaics operations result in significant capture of surface water flows, water resources which are beyond those allocated by its SWFWMD permit. 4-5, 9. See also Ex.10 (attached Cotter report at 3). The graph at 4-191, Ex. 1, shows capture of surface waters from tens of thousands of acres of mined but not reclaimed land. It is ludicrous to think that one can evaluate mining impacts without addressing the surficial and intermediate aquifers, but that is exactly what the DAEIS pretends to do. There is modeling, though insufficient, of the Floridan Aquifer, but there is no analysis of the impacts of mining, cumulative or otherwise, on the surficial and intermediate aquifers. | Included in summary response above. |
| **GW-2** | | | **The evaluation of withdrawal impacts incorporates reduction of groundwater withdrawals for mining use in formerly mined areas with proposed new withdrawals, masking the incremental (individual) impacts of the proposed mining alternatives. The effects of individual alternatives should be modeled.** | **All of the planned mines are included in the groundwater modeling described in the groundwater section of Chapter 4 and Appendix F. The degree and significance of effects for each alternative is described in Chapter 4. Drawdown simulations are provided for cumulative impacts with all other groundwater users pumping (including agricultural withdrawals) with the mine withdrawals, and for mine withdrawals and other users without the agricultural withdrawal reductions. Pumping conditions in 2010 are assumed to represent baseline conditions and are based on permitted quantities for all users, including public, recreational, agricultural, industrial and mining (not actual use). The groundwater model has also been updated to present evaluation of water level changes in the Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer (UFA).** |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000272-71 | Sarasota County, FL, Christine Robinson | County Government | Floridan Aquifer Effects the modeling approach is limited in its scope only the Alternative including the two new mines was evaluated using groundwater modeling; the potential effects of the other Alternatives should be modeled on an individual basis as well. | Included in summary response above. |
| 000000272-74 | Sarasota County, FL, Christine Robinson | County Government | The only scenarios that were evaluated were the new Floridan Aquifer System (FAS) withdrawals associated with the two new mines the assumption is made that resuming use of the existing supply wells at the Fort Green Mine (un-used since 2006) would represent no new use, even though the conditions of 2010 are used as a baseline in the modeling. | Included in summary response above. |
| 000000272-85 | Sarasota County, FL, Christine Robinson | County Government | 3.1.3 Beneficiation Acknowledges impacts to the Floridan Aquifer system as a result of groundwater withdrawals for industrial use, but does not evaluate any associated surficial aquifer drawdowns that may result from lowering of water levels in the Floridan Aquifer. | Included in summary response above. |
| 000000272-94 | Sarasota County, FL, Christine Robinson | County Government | Withdrawal impact evaluation incorporates reduction of groundwater withdrawals for mining use in formerly mined areas with proposed new withdrawals, masking the incremental (individual) impacts of the proposed mining alternatives. | Included in summary response above. |
| 000000272-104 | Sarasota County, FL, Christine Robinson | County Government | Appendix D Groundwater Modeling is based on cumulative effects only doesn't address individual localized drawdown impacts. | Included in summary response above. |
| 000000272-106 | Sarasota County, FL, Christine Robinson | County Government | Incremental impacts are not assessed SWFWMD reviews of groundwater withdrawal impacts look at both incremental and cumulative effects. | Included in summary response above. |
| 000000272-107 | Sarasota County, FL, Christine Robinson | County Government | Each individual mine should be modeled in addition to cumulative scenario. | Included in summary response above. |
| **GW-3** | | | **Why use average groundwater usage rather than the maximum allowable by permit when constructing models to predict possible foreseeable impacts from groundwater withdrawal? The analysis should include an evaluation of seasonal impacts, an assessment of impacts if there is no reduction in agricultural usage, and the effects of hydrologic alterations.** | **The groundwater modeling assumptions are presented Appendix F and include pumping by other users, drought year pumping conditions, seasonal impacts, and flexible pumping scenarios by the industry. The revised groundwater modeling presented in Appendix F and the groundwater section of Chapter 4 includes an evaluation of the drawdown in the Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer (UFA). The referenced surface water hydrology effects are addressed in** |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | | **the surface water section of Chapter 4 and Appendix G of the Final AEIS.** |
| 000000277-5 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | Why use average groundwater usage over the maximum allowable by permit when constructing models to predict possible foreseeable impacts from groundwater withdrawal? The model projections rely strongly on the significant reduction in agriculture to result in increased groundwater levels. Why is there no analysis conducted based on no reduction in agriculture? Groundwater will be impacted by mining in many different ways. Mining operations use some ground water directly for the initiation of the slurry process. This water is pumped from the Florida Aquifer System (FAS), a deep expansive aquifer that extends from southern South Carolina to the Florida Keys. Between the FAS and the surface of the ground are two other aquifers that will also be impacted directly or indirectly by mining, the Surface Aquifer System (SAS) and the Intermediate Aquifer System (IAS). These aquifers are indirectly linked by different geologic structures and to some extent be affected by withdrawals from each. The SAS and the lAS will be impacted indirectly by the Clay Settling Areas (CSA). The CSA are dense formation of clay that disrupt the groundwater flow and permeation of rainwater recharge into these two systems. | Included in summary response above. |
| 000000280-5 | Lee County, FL, Roland Ottolini, P.E. | County Government | 2. In the Groundwater Analysis, an over-simplified approach was also used as well. That is, only the annual average pumping for the mine industrial use was analyzed. Typically, during a dry season groundwater pumping is higher and the groundwater potentiometric level becomes low which means the water level drawdown becomes significantly larger compared with an annual average pumping rate. This seasonal effect level was not analyzed. In addition, the Surficial Aquifer System (SAS) was not analyzed although the SAS was included in the numerical model. Note that the proposed mining will take place in the SAS. Consequently, the SAS is the aquifer directly impacted by the mining activities (i.e., excavation, beneficiation, and impounding, etc). These hydraulic alterations both above and underground (within the SAS) will directly influence the hydrology of creeks and wetlands in terms of water levels, flows, ponding durations, and water quality. None of these potential impacts was analyzed. | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **GW-4** | | | **The District-Wide Regulatory Model Version 2.1 (DWRM2.1) was developed by SWFWMD for the purpose of evaluating the water resources and regulatory permitting. Why was this model used for the AEIS groundwater analysis? Why was an integrated surface water and groundwater model not used?** | **Various groundwater models were considered, as described in Appendix F that could simulate water level impacts throughout the study area. The SWFWMD DWRM2.1 model was selected because it uses the industry standard MODFLOW model code which was developed for and supported by the USGS. The model is used by the SWFWMD to support water use permitting decisions and regional water supply planning for large scale geographic areas inclusive of the entire AEIS study area. Additional information about the model selected to support the AEIS groundwater evaluations is presented in Appendix F.** |
| 000000280-6 | Lee County, FL, Roland Ottolini, P.E. | County Government | 3. Dynamics of surface water and groundwater interaction were completely ignored. The proposed mine areas show close interactions of the two water bodies via recharge and discharge. Considering only one medium at a time ignores the dynamics of inter-dependency of the two media and consequently any findings will be misleading. There are existing integrated models applied at the very watersheds the mines are proposed (Peace River & Myakka River). Yet, instead of using the existing integrated models, the AEIS used an over-simplified model. It is noteworthy here to quote the AEISs own language to demonstrate the importance of the sophisticated integrated modeling: Today, the phosphate industry uses sophisticated integrated surface water/groundwater modeling to predict target hydrologic conditions in mitigation wetlands and streams. Todays advanced construction technology, such as laser and global positioning system (GPS)-guided earthmoving equipment, provides the means to precisely contour the land to achieve desired elevations and hydroperiods. (Page 5-3, Chapter 5 Mitigation, AEIS) Please follow the above mentioned practice in the phosphate industry by providing an integrated hydrologic model using the advanced technologies and the existing data (such as the seasonal hydrologic records and the LiDAR data) and properly evaluate the potential environmental impacts. An integrated model is required to evaluate the cumulative environmental impacts of phosphate mining on stream flows, sheet flows, base flows, frequency and duration of wetland inundation and wetland connectivity. Failing to use an integrated model is a significant flaw in the method of evaluation. | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000280-53(a) | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 1 The District-Wide Regulatory Model Version 2 (DWRM2.1) was developed by SWFWMD for the purpose of evaluating the water resources and regulatory permitting. To apply the DWRM2.1 at AEIS for cumulative environmental impact analysis, the model requires significant amounts of modification. The modification should include: surface water stresses (rainfalls, evaporations/evapotranspirations, and runoff), seasonal surface water runoff characteristics (creeks, wetlands/ponds, dikes/ditches, and berms) and the dynamic interaction of the surface water system with the SAS. The current AEIS considered none of these surface water hydrology features and its interactions with groundwater. Therefore, either modify the DWRM2.1 or use an integrated model (of surface water and groundwater). There exist two readily available integrated models: 1) Peace River Integrated Modeling Report, 2012, by Hydrogeologic; 2) Myakka River Watershed Initiative, 2008, by Interflow Engineering. | Included in summary response above. |
| 000000280-53(b) | Lee County, FL, Roland Ottolini, P.E. | County Government | Therefore, either modify the DWRM2.1 or use an integrated model (of surface water and groundwater). There exist two readily available integrated models: 1) Peace River Integrated Modeling Report, 2012, by Hydrogeologic; 2) Myakka River Watershed Initiative, 2008, by Interflow Engineering. | Included in summary response above. |
| 000000280-54 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 4, P.7, P.8 The potentiometric surface shown at Figure 2 (Conceptual Cross Section Study Area) does not match with the monitored water levels in Figures 4 and 5. The model selection process was not included in the AEIS. A numerical model should be selected by reviewing the available models to best achieve the prescribed modeling goals and objectives. However, AEIS selected the DWRM2.1 without evaluating strengths and weakness of the available models. Then, the limitations of the selected DWRM2.1 were used as a reason for over-simplifying assumptions and omissions of critical hydrologic processes in the system (see page 10 of Appendix D, for example). This approach is NOT industry accepted and the results from this modeling should be considered as preliminary at best. Please refer to the modeling guidelines listed below: 1) ASTM Guide for Application of a Ground-Water Flow Model D5447-04, 2010; 2) USGS Guidelines for Evaluating Ground-Water Flow Models, 2004 SIR 2004-5038; 3) Groundwater Modeling Guidance for Mining Activities, 2008, US Dept of Interior, Bureau of Land Management | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | (www.blm.gov/pgdata/etc/medialib/blm/nv/minerals/mining.Par.60011.File.dat/GroundwaterModeling.pdf) P. 21- 25 Several graphs showing the changes of simulated water levels indicate potential modeling boundary conditions effects. For example, on Figures 12 through 16 the 0.5 ft lines (of water level change) are too close to the constant groundwater head boundary which may imply that the actual water level changes could be higher than the ones shown in the graphs. Either relocate the boundary outward or check the cell-by-cell flow outputs along the boundary to ensure no or minimum boundary effects. | |
| 000000280-55 | Lee County, FL, Roland Ottolini, P.E. | County Government | 2.0 Conceptual Model P. 3 The AEIS states that SAS recharge rates vary with precipitation. It is unclear what precipitation was used as input for the model. This information should be included in the AEIS Also see comments relating to groundwater modeling referencing Appendix D above. The DWRM2.1 model was developed to evaluate only the FAS water level changes and no attempt was made to evaluate or assess potential changes in surficial aquifer water levels or impacts to surface water features such as rivers, streams, lakes or wetlands. CH2M Hill assumed no future increases in public or domestic water supplies for all of the future scenarios. Therefore, the results of the groundwater modeling appear to emphasize the simulated increases in FAS water levels associated with the planned 50 mgd reduction in permitted agricultural pumping by 2025 and the reduction in mining withdrawals associated with future cessation of currently operating mines. By not developing separate scenarios showing the effects due solely to reductions in agricultural pumpage and the effects due solely to mining pumpage, CH2M Hill has drawn attention away from the simulated draw-downs associated with the proposed new pumping at the Ona Mine and the extension of currently permitted pumping at existing mines that will be diverted to the proposed new mines. No effort was made to spatially quantify the planned agricultural pumping reductions. As a result, it is impossible to discern where the increases due to agricultural pumping reductions would be located or concentrated. Impacts to spring discharge and baseflow contribution to surface water features were not evaluated, but are assumed to be positive due to a net increase in FAS | Included in summary response above. |

## Groundwater

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| | | | water levels over the EM footprint due to expected reductions in agricultural withdrawals. In order to properly evaluate cumulative groundwater impacts 40 to 50 years in the future, it would seem relevant to assess production trends from all groundwater users. | |
| 000000351-10 | Debra L Highsmith | Private Citizen | Chapter 4 Environmental Consequences This entire chapter must be re-done with state-of-the-art integrated modeling. Decades of water quality sampling and analysis must be incorporated. The scoping process recommended integrated groundwater and surface water modeling. Integrated groundwater and surface water modeling did not occur in this study even though the best peer-reviewed technical tools are available for doing so. Special attention should have been paid to dry season levels, small streams, LIDAR, and drought analysis. Using the best available tools is necessary. The study titled The Interdependence of Headwater Wetlands, Groundwater Levels, and Stream flow Before and After Mining by Terrie M. Lee and Geoffrey Fouad US Geological Survey Florida Water Science Center, Tampa is groundbreaking. The result is that a completely integrated modeling approach is productive, necessary and doable. | Included in summary response above. |
| 000000371-10 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The District has expended a great deal of time, effort and money developing the Peace River and Myakka River Integrated Surface Water and Groundwater Models that are being used by them to model responses to changes in landuse and permitted amounts of water use. The AEIS doesn't adequately explain why an alternative approach was selected to also model predicted impacts of the proposed mining alternatives. | Included in summary response above. |
| 000000371-84 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Groundwater "the modeling results show that the influence of the phosphate mines is overshadowed by the effects of all of the other users combined." Previously developed future landuse estimates might better be viewed as "pie in the sky" since such planning estimates have always reflected more or less maximum potential changes over time. Currently such estimates seem less rather than more likely (or at least pushed back several decades). The District's estimates of recovery of groundwater levels also seems (at best) a bit optimistic given the fact that rainfall over 9 of the past 12 years has been below the longer term average used in the | Included in summary response above. |

## Groundwater

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| | | | AEIS, and that conversions from agriculture to urban have slowed dramatically. Wouldn't it have been more realistic for the AEIS to have run the groundwater models using: 1) current landuse; 2) some intermediate rate of conversion; and 3) the estimates used. This would have provided a much more accurate range of values rather than the unrealistic specific levels shown in the draft AEIS. An EIS is a planning document that should provide decision makers with 1) worst case; 2) best case 3) mid case estimates of expected impacts of the alternatives when something as nebulous as predicting future groundwater levels is concerned. This would provide a range against which potential benefits of the 'Action" alternatives can be assessed more realistically, rather than using a single set of model assumptions (which can't be accurate given the high range of uncertainly given the magnitude and/or timing of the assumptions). There simply isn't any accurate "best available information" in this instance, but rather use of ranges of best available guesses, which warrants an alternative approach to assessing potential future groundwater impacts. Again, why didn't the AEIS use the District's integrated surface/groundwater model? | |
| 000000393-9 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP would like to note that it requested the use of integrated groundwater/surface water models for analysis within the AEIS. The CHNEP CCMP emphasizes the need for integrated ground and surface water modeling through action HA-B: Develop integrated ground and surface water models. Address data gaps based on ecosystem needs and projected needs for water withdrawals due to population growth, development, agriculture and mining. However, we understand that the calibration of the Peace River Integrated Model (PRIM) was completed in 2011, with an addendum in 2012. It may not have been available as a tool at the commencement of the AEIS and DWRM2 may have been the best groundwater modeling tool available at the time. CHNEP requests that a paragraph be devoted to the justification for the use of DWRM2 as a tool. | Included in summary response above. |
| 000000430-16 | USGS, Arturo E Torres | Federal Agency | The DAEIS does not address the cumulative impact of mining on groundwater flow in the surficial aquifer system, particularly in historically mined and reclaimed areas. What is the impact of mining on the groundwater in the surficial aquifer? The groundwater model DWRM2 was used to report | Included in summary response above. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | annual average drawdown in the levels of the Upper Floridan aquifer (UFA) due to the four proposed mines. However, the DAEIS provides no discussion on impacts to the surficial aquifer nor the intermediate aquifer as the DWRM2 model is unable to simulate impacts to these aquifers, much less to simulate surface water/groundwater interactions in the Central Florida Phosphate District (CFPD) area. In our opinion, the Peace River Integrated Model (PRIM) is a better groundwater modeling tool and it should have been used to appropriately simulate the surface water/groundwater interactions in the Central Florida Phosphate District area. Several studies (Garlanger, 1982; Lewelling and Wylie, 1993; Schreuder, 2006) discuss baseflow and streamflow conditions, but these studies have conflicting results. Groundwater flow in the surficial aquifer is an important source of baseflow to streams, and high water-table elevations in the surficial aquifer system are needed to keep wetlands hydrated. Streamflow measurements are needed to quantify the baseflow contribution to streams on reclaimed lands. In general, baseflow is derived from the infiltration of rainfall to the surficial aquifer, and it contributes the majority of streamflow in Peace River tributaries. For example, baseflow contributes about two-thirds of the flow in the Charlie Creek tributary to Peace River over the long term average (Lee and others, 2010). The condition of the surficial aquifer in the hundreds of square miles of reclaimed mined areas will affect streamflows from these tracts of land for the foreseeable future. | |
| **GW-5** | | | **Modeling assumptions rely heavily on assumed reductions in agricultural withdrawals not an evaluation solely of mining impacts as is done for WUP modeling analyses.** | **Modeling assumptions are described in Appendix J and F and are consistent with the SWFWMD SWUCA Recovery Strategy (SWFWMD 2006) for reductions in groundwater use by agriculture of 50 million gallons per day (gpd) between 2005 and 2025. As described in Section 4.3 of Appendix J, the Applicants also will be required to meet conditions associated with the SWFWMD water use permitting process.** |
| 000000272-95 | Sarasota County, FL, Christine Robinson | County Government | Modeling assumptions rely heavily on assumed reductions in agricultural withdrawals not an evaluation solely of mining impacts as is done for WUP modeling analyses. | Included in summary response above. |

## Groundwater

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| 000000272-96 | Sarasota County, FL, Christine Robinson | County Government | By incorporating potential reductions by other uses, the actual impacts of the mining withdrawals are reduced or minimized in the simulation. | Included in summary response above. |
| **GW-6** | | | **The groundwater model DWRM2.1 is used to report annual average drawdown in the groundwater levels of the UFA due to the four proposed mines. For completeness, the AEIS also should report the impacts of the seasonally lowest simulated groundwater levels caused by pumping. The annual average drawdown is a hypothetical condition that averages out the seasonal extremes in pumping effects. The largest drawdowns due to pumping in the spring/dry season are associated with most of the notable environmental impacts (sinkhole formation, dry wells, and water losses from streams). The amount of groundwater pumped from the Upper Floridan aquifer for mining operations varies seasonally and annually with rainfall (see Fig. 4-31 on page 4-80). This seasonal pumping compounds the natural seasonal groundwater fluctuations during the wet and dry seasons, which is further compounded by agricultural irrigation pumping.** | **The seasonal changes water levels resulting from withdrawals are presented in Appendix F, Section 7.0. The final groundwater modeling analyses included both transient and steady state modeling to represent seasonal and long term conditions. For the one year transient model analysis, the recharge and well withdrawal rates were adjusted to long term average monthly rates. The steady state analysis was conducted using drought year estimates instead of annual average flow values. Additional model scenarios were added to reflect that some of the mines have flexible permit quantities that exceed drought year estimates.** |
| 000000280-28 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 3-47, line 9-15 Florida law (Chapter 373.042, Florida Statutes) requires the state water management districts or the Department of Environmental Protection to establish minimum flows and levels (MFLs) for aquifers, surface watercourses, and other surface water bodies to identify the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. (Lines 9 through 15). However, it appears that the groundwater MFLs were conducted using annual pumping. The MFL impact should be analyzed using the worst case drought period pumping rates, not annual pumping rates. Note that seasonal groundwater fluctuations appear in the range of 30 to 50, according to the Appendix D (Figures 4 & 5 and the statements on page 16). Also, no surface water impact on the States MFLs was evaluated and therefore it is necessary not using the annual rainfalls but the dry season precipitation with the proposed land use change. | Included in summary response above. |
| 000000280-33 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 4-1, lines 21-29 AEIS reads Determination of significance, as described in 40 CFR 1508.27, requires considerations of both context and intensity. Context considers the locale of the | Included in summary response above. |

## Groundwater

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| | | | impact and the region. Intensity considers the severity of the impact, ... Then, in the following sections, both the surface water and groundwater analyses were presented using the annual average rainfall and annual average groundwater pumping rates, respectively. The severity of the impact CANNOT be evaluated using the annual average hydrologic stress data. As shown in the stream gauge records at Peace River Basin (Hydrogeologic, 2012, page 3-2), 6.6 inches of extra rainfall (during wet season when ground is saturated) causes a significant stream flow at all gauges. These seasonal high and low stresses must be used both in the surface and groundwater analyses to properly evaluate intensity and context of the environmental impact. | |
| 000000280-34(b) | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.2.2.2 Key Working Assumptions for the Groundwater Modeling P. 4-15, lines 1-4 and Appendix D AEIS reads Conversely, it is acknowledged that under drought conditions, increased pumping rates and longer duration FAS withdrawals can be needed. For this AEIS evaluation, however, the analytical focus was on long-term average conditions and the conservative approach adopted was to conduct the model simulations using the annual average allocation rates. Again, the long-term average conditions DO NOT reveal the severity of the impact which is induced by the acknowledged increased pumping rates and longer duration of withdrawals under drought conditions. The seasonally varying pumping rates must be used to properly evaluate the impact. | Included in summary response above. |
| 000000430-17 | USGS, Arturo E Torres | Federal Agency | The groundwater model DWRM2 is used to report annual average drawdown in the groundwater levels of the UFA due to the four proposed mines. For completeness, the AEIS also should report the impacts of the seasonally lowest simulated groundwater levels caused by pumping. The annual average drawdown is a hypothetical condition that averages out the seasonal extremes in pumping effects. The largest drawdowns due to pumping occur in the spring/dry season are associated with most of the notable environmental impacts (sinkhole formation, dry wells, and water losses from streams). The amount of groundwater pumped from the Upper Florida aquifer for mining operations varies seasonally and annually with rainfall (see Fig. 4-31 on page 4-80). This seasonal pumping compounds the natural seasonal groundwater fluctuations during the wet and dry seasons, which is further | Included in summary response above. |

## Groundwater

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| | | | compounded by agricultural irrigation pumping. As a result, ROMP Wells 31 and 40 show 20 to 40 ft seasonal fluctuations in Upper Floridan aquifer levels due to mining plus agricultural pumping (e.g.., Figs. 4-25 through 4-27). Varying levels of drawdown from current phosphate mine pumping extends across much of the CFPD (see simulated head recovery without pumping from mines, Appendix D, Figure 16). Drawdown affects areas where the Upper Florida aquifer is both poorly confined and well-confined. Much of the effect of the proposed mining will be in western Hardee County where the potentiometric surface of the Upper Florida aquifer in the dry season (May) already is at low levels, and will move into western De Soto County (see Figure 1 below). The DAEIS indicates that Agricultural pumping will be reduced by 8%, from 650 to 600 mgd. However, this reduced amount is spread over the 5,100 square mile SWUCA, and will not offset the concentrated effects of pumping for mining in western Hardee and DeSoto Counties. The AEIS should consider the superposition of these seasonal effects on the existing potentiometric surface in western Hardee County which already displays severe drawdown impacts in the dry season, particularly during drought years. (Please see attached PDF for Figure 1)Figure 1. Potentiometric surface of the Upper Floridan aquifer, west-central Florida, May 2010, US Geological Survey Scientific Investigations Map 3139, 1 sheet. (Ortiz, A.G, 2011) | |
| 000000542-56 | Percy Angelo | Private Citizen | E. The DAEIS Improperly Relies on Annual Average or Other Long-Term Average Data. -The DAEIS relies consistently on annual or even longer term average data and thus fails to consider seasonal variations, as well as drought and other conditions, which are concealed by long term averages- Throughout the AEIS the document compares phosphate impacts to long term averages, e.g. for surface water flows and for water quality measurements. See further discussion below. Limiting consideration to long term averages entirely conceals the significance of impacts during shorter term events such as seasonal changes (rainy season and dry) and droughts, a common occurrence in the CFPD. The result is to entirely hide water quality violations and damage from surface water capture and overpumping of the aquifer. | Included in summary response above. |

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| 000000542-57 | Percy Angelo | Private Citizen | The CFPD is within the Southwest Florida Water Management District (SWFWMD) Southern Water Use Caution Area (SWUCA), defined because of overpumping of the aquifer and long term drought effects. The mining impact is in fact worse than described by the annual average; the mining companies actually use more water in times of drought, since they dont have access to rainwater on their mine sites and must pump more water to make up for that shortfall. | Included in summary response above. |
| 000000542-62 | Percy Angelo | Private Citizen | Preparing an analysis for SWFWMD, Ralph Montgomery of Atkins Engineering comments throughout his document on the failure of the DAEIS to differentiate between seasonal flows and their implications for water supply reliability and cost. Ex. 8, at 1-2, 4-7, 11, 13, 15-16, 19-23. He even notes that the AEIS method actually hides the real dry-season changes. Id, at 23. When the mines being considered have operations extending almost to the end of the century (considering both mining and reclamation) the failure to consider the impacts during peak uses and the failure to recognize the impact of other potential water users, agriculture and development, is entirely improper. The fallacy of the long term average approach is echoed in the surface water and water quality areas, discussed below. Long term averages simply hide the impacts which the AEIS should be addressing. | Included in summary response above. |
| **GW-7** | | | **The AEIS only provides modeled draw down impacts of the FAS for two of the four proposed mines, and does not address cumulative impacts. Moving water demands and the resulting impacts from currently mined areas to new mines doesn't take into account the existing diminishing impacts to the FAS with the projected end of mining at the current facilities.** | **The cumulative impacts section of Chapter 4 presents the cumulative water level changes resulting from withdrawals at all 6 existing mines (No Action) and withdrawals at the Applicants Preferred alternatives (use of existing wellfields and one new wellfield), therefore, all groundwater withdrawals are represented in the model. The groundwater model has also been updated to present evaluation of Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer (UFA). Comparing reasonably foreseeable alternatives to the applicants preferred alternatives would not change the results since water withdrawals are assumed to remain constant whether to supply a preferred alternative or a foreseeable alternative. It is not reasonable to assume both preferred and foreseeable would occur simultaneously.** |

## Groundwater

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| 000000371-20 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS only provides modeled draw down impacts of the FAS for two of the four proposed mines. Moving water demands and the resulting impacts from currently mined areas to new mines doesn't take into account the existing diminishing impacts to the FAS with the projected end of mining at the current facilities. Thus, it only seems logical that the transfer and projected water use under these two additional mines that were not included in the AEIS analyses should be evaluated as new impacts. Especially since transfer of permitted amounts weren't envisioned in the District's long-term plans for the existing mines (see comments under Chapter IV). | Included in summary response above. |
| 000000371-31 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The presented estimates of FSA withdrawals might be better expressed as dry-season maximum daily/monthly values (which would be in the permit) rather than annual averages since most of the FAS water withdrawals by the mines could be expected to occur during such drier periods. "Just moving FAS impacts from one area to another doesn't reduce these impacts, if these new mines didn't extend the currently permitted water quantities for these new areas then the current impacts to the FAS would simply diminish over time (as envisioned in the original District permits). It is hard to justify these extended water quantities as not being new impacts since they are being extended beyond what was originally envisioned under the original permits. | Included in summary response above. |
| 000000393-11 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | The CHNEP questions the accuracy of the analysis, comparing Proposed alternatives to the Foreseeable alternatives. The DAEIS assesses Foreseeable alternatives was if they have no impact because Water Use Permits would be moved from existing and Proposed mines and beneficiation plants. If the Foreseeable alternatives were not constructed, the water use would not occur. Foreseeable alternatives should be compared to Proposed mines within the same period (2025 to 2045) and to No Action. This would compare Proposed to Foreseeable as alternative scenarios. In addition, we request an analysis adding the Foreseeable mine production after Proposed. | Included in summary response above. |

## Groundwater

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| 000000542-73 | Percy Angelo | Private Citizen | Finally, while the DAEIS is extremely inconsistent in its data on the length of time that mines will operate, it is clearly possible that the impacts identified will last till close to 2090. See estimate of life of Pioneer mine plus 10 years of reclamation. 4-81. As noted above, the so-called alternatives analyzed are really just outlines of areas for future mines, which would extend these impacts almost to the next century. The groundwater impacts identified by the AEIS, though not addressed cumulatively and never discussed, are truly devastating, over space and over time. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000013-1 | Norma and John Killebrew | Private Citizen | I previously submitted observations (negative) regarding mining in our area. Since that time I have put together more observations. I feel that as an adjacent property owner surrounded by DRI 263's 53,000 acres, my husband and I have a unique observation point. I would like to add right here that our ranch predates mining in our area. We have been here 47 years. | Comment acknowledged. |
| 000000017-9 | Kristi Patel | Private Citizen | Ref:....BCI-Fate of the Re-Agent Study.....found residuel petroleum in 4 out of 42? monitoring wells as well as in sand tailings. This agency is intrinsically set up to "not" find impact. Request and watch the second study...on video. BCI presented a good scoped study....the board....Steve Sussix states...."cannot have ANY risk assessment as it will unduly alarm the public"!!!....This was a second study that already documented existence of public health problem.The risk assessment was slashed from study....so "token" research again done without objective benefit...Video is available thru FIPR. Dialogue is alarming and consistent with this writers testimony. | Comment acknowledged. |
| 000000272-76 | Sarasota County, FL, Christine Robinson | County Government | The figures depicting groundwater withdrawal impact predictions that are presented in the Executive Summary show large areas of predicted Floridan Aquifer drawdowns exceeding one foot of impact (the typical regulatory limit on impacts beyond which additional extensive impact analyses are required). | The groundwater section of Chapter 4 includes the figures that show recovery of water levels over the entire area for the No Action alternative, and water level recovery over most of the area for the Applicants' Preferred Alternatives. |
| 000000272-77 | Sarasota County, FL, Christine Robinson | County Government | Withdrawal impact modeling results should also be presented showing predicted drawdowns in surficial aquifer (wetlands, lakes, streams, and other water bodies overlying area of | Evaluation of the changes in water levels in the SAS, IAS, and UFA are now included in the groundwater section of Chapter 4 and in Appendix F. The referenced surface water bodies are |

## Groundwater

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| | | | Floridan Aquifer drawdown impacts). | at a finer scale than the model's grid size; therefore, the DWRM2.1 model cannot simulate those features. DWRM2.1 was selected as described in Section 3 of Appendix F, and it represents the best model available to address all of the necessary model selection criteria. |
| 000000272-78 | Sarasota County, FL, Christine Robinson | County Government | Greatest potential effects to groundwater quality are within the shallow surficial aquifer system. | Available data from the surficial aquifer indicated that groundwater from reclaimed basins generally had higher concentrations of most constituents than did groundwater from unmined basins. Concentrations of most constituents however, were within the FDEP water quality regulations. The water quality section of Chapter 4 presents the water quality evaluation and water quality impacts of the existing and alternative mines. |
| 000000272-79 | Sarasota County, FL, Christine Robinson | County Government | Claim is made that groundwater conditions in water table around mines generally meets all applicable groundwater standards however, this claim is directly contradicted by published research data (Lewelling, B.R. and Wylie, R.W., United States Geological Survey, 1993). | Available data from the surficial aquifer indicated that groundwater from reclaimed basins generally had higher concentrations of most constituents than did groundwater from unmined basins. Concentrations of most constituents however, were within the FDEP water quality regulations. The water quality section of Chapter 4 presents the water quality evaluation and water quality impacts of the existing and alternative mines. |
| 000000272-80 | Sarasota County, FL, Christine Robinson | County Government | Case is made that Floridan Aquifer levels will rise due to reduced mining and agricultural operations in other areas of CFPD over the course of the proposed mining period. This broad approach only looks at overall water budget, not at the localized drawdowns that will be caused by the individual mines proposed in the Alternatives | The impact of mining only without a change in agricultural withdrawals are included in the modeling presented in the groundwater section of Chapter 4 and in Appendix F. |
| 000000272-87 | Sarasota County, FL, Christine Robinson | County Government | 3.3.2.2 Groundwater Systems Intermediate Aquifer System/Intermediate Confining Unit needs further discussion regarding up-dip areas of groundwater recharge and down-dip areas of public water supply groundwater withdrawals. | Comment acknowledged. |
| 000000272-90 | Sarasota County, FL, Christine Robinson | County Government | 3.3.2.7 Potential Effects of Phosphate Mining on Watershed Surface Water Budgets Detailed water budgets presented in report need to be incorporated into groundwater impact modeling efforts. | The changes in surface water runoff to the major rivers were determined in Appendix G. The changes in groundwater discharge to the major rivers were determined in Appendix F. The cumulative impacts section of Chapter 4 presents the results of combining these changes and compares the resulting river flow to background conditions. |

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| 000000272-93 | Sarasota County, FL, Christine Robinson | County Government | Used analyses from only two prospective mining projects use of Floridan Aquifer groundwater withdrawals as water source as predictive proxy for other proposed mine projects of similar spatial and temporal scale this disregards significant differences in hydrogeology of the various proposed mine sites need more site-specific evaluation. | The planned mines are located in the model and the associated Floridan aquifer withdrawals are located as reasonably close as possible to the anticipated mining operation. That includes 6 existing wellfields and one for the preferred alternatives (Ona). No new wellfields are assumed for the Applicants' Preferred or Reasonably Foreseeable Alternatives. If the water wells from one mine are anticipated to provide water to another, future mine, the well locations remain the same and the withdrawals are correctly placed in time and pumping quantity associated with the future mine. |
| 000000272-97 | Sarasota County, FL, Christine Robinson | County Government | 4.2.3 Surface Water Resource Evaluation Methods Needs to be integrated into groundwater evaluation the two are inseparable and are interrelated as increased surface water runoff = reduced groundwater recharge. | The changes in surface water runoff to the major rivers was determined in Appendix G. The changes in groundwater discharge to the major rivers was determined in Appendix F. The cumulative impacts section of Chapter 4 presents the results of combining theses changes and compares the resulting river flow to background conditions. |
| 000000272-102 | Sarasota County, FL, Christine Robinson | County Government | 4.11.1 Geology and Hydrogeology Comments focus on water table dewatering impacts does not address permanent changes to groundwater recharge capacity following mine reclamation. | Cumulative impacts to aquatic resources, surface water hydrology, and the Floridan aquifer levels are addressed in the cumulative impact section of Chapter 4 of the Final AEIS. As stated in Chapter 5 of the Final AEIS, post-mining reclamation will be conducted in accordance with applicable regulations. |
| 000000272-105 | Sarasota County, FL, Christine Robinson | County Government | By combining effects of new withdrawals with reductions due to mine closings, the localized effects are masked. Modeling should show both components separately. | All of the planned mines are included in the groundwater modeling described in Chapter 4 of the Final AEIS and Appendix F. Individual mines were not modeled since the study was designed to evaluate industry-wide impacts. Drawdown simulations are provided for cumulative impacts with all other groundwater users pumping (including agricultural withdrawals) with the mine withdrawals, and for mine withdrawals and other users without the agricultural withdrawal reductions. |
| 000000272-109 | Sarasota County, FL, Christine Robinson | County Government | Lewelling, B.R. and Wylie, R.W., United States Geological Survey, 1993. Hydrology and Water Quality of Unmined and Reclaimed Basins in Phosphate-Mining Areas, West-Central Florida. Compared hydrologic characteristics and water quality of three unmined basins to those of five mined basins which used four unique reclamation methods. Found that hydrologic effects of reclamation vary with the type of fill material used in reclamation. Peak runoff rates from mined/reclaimed basins were generally higher during intense, | In the reclamation plan required by the FDEP, mined land must be contoured so that the pre-mining and post-reclamation landforms are within approximately 5 percent of each other for the peak flow and runoff of stormwater. This must be demonstrated in stormwater modeling of the pre-mining and post-reclamation watersheds defined by the water management district. As the mined lands are reclaimed, any increase in runoff due to changes in permeability will be compensated for by the creation of onsite stormwater storage |

**Groundwater**

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| | | | short-duration thunderstorms than the rates from unmined basins. Peak runoff rates during low-intensity, long-duration frontal storms were similar at all basins. Runoff responds more slowly to rainfall in reclaimed basins than in unmined basins due to undeveloped drainage systems in the reclaimed basins. In reclaimed basins backfilled with clay, there was no sustained baseflow to streams and runoff rates were relatively small because of surface storage in depressions in the land surface. - Depth to water table in the surficial aquifer in these basins was much deeper than in unmined basins and in reclaimed basins backfilled with overburden. - Recharge from surficial aquifer into underlying intermediate and Florida aquifer systems was greatly reduced. In reclaimed basins backfilled with overburden, streamflows were characterized by relatively low peak runoff rates but relatively high base flows. - Fluctuations in water levels and depths to the water table in these reclaimed basins were similar to those in unmined basins. - Recharge from surficial aquifer into underlying intermediate and Floridan aquifer systems was greater than in reclaimed basins backfilled with clay. Water quality sampling indicated higher concentrations of most constituents in groundwater from reclaimed basins than in unmined basins. Dissolved solids, iron, sulfate, manganese, and lead exceeded regulatory standards in mined basins. Only iron and gross-alpha exceeded standards in unmined basins. Hydrologic characteristics and surface- and groundwater quality of basins which were reclaimed with overburden-capped sand tailings and contoured overburden methods were similar to those of unmined basins. Hydrologic characteristics and surface- and groundwater quality of basins which were reclaimed with clay-settling or sand-clay settling methods differed from unmined basins. - Reduced runoff due to surface storage and increased Uranium-234 activity in the more recently-reclaimed clay-settling basin. - More rapid runoff response to rainfall, reduced flow, greater depths to water table, and more gradual water-table response to recharge in the more established clay-settling basin. | such as swales, ponds and ditches. Water quality issues are addressed in the water quality section in Chapters 3 and 4 of the Final AEIS. The projected water quality impacts from Alternatives 1 through 9 are addressed individually. Projected water quality impacts from the proposed mines are addressed in Chapter 4 and discussed by watershed. |

## Groundwater

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| 000000275-11 | Helen King | Private Citizen | There is no place in the AEIS to demonstrate the cumulative impact of groundwater pumping for all of the mines operating at one time. This is required under NEPA law. The same situation occurs for surface water impacts. The AEIS discusses individual mine impacts on an annual average basis, but never adds those impacts together. | The groundwater section of Chapter 4 presents the No Action alternative with all existing mines operating. It also presents the Applicants Preferred Alternative mines with the timetable of when an existing mine would be closed and new mines opened. Model scenarios were run for specific years when any change occurred. Appendix F presents additional information regarding the modeling assumptions, pumping rates and times, and results. |
| 000000280-16 | Lee County, FL, Roland Ottolini, P.E. | County Government | Groundwater levels have been shown to be lowered by 20 feet for extended periods in the SAS. The new recharge ditch designs are shown to improve the condition but there are no specifics as to their effectiveness. A viable groundwater source for the SAS is vital for biological sustainability. The SAS is the base flow source for local streams and lakes. Altering its ability to supply adequate hydration to wetland and other downstream systems has the potential to impair the sustainability of downstream systems and receiving waters. Dewatering in the area involves the use of existing wells, as opposed to new wells for the Desoto operation. Water use from an existing well or a new well has more to do with the impact on the aquifer as opposed to the well construction. Although the cumulative impacts of these two mines were referred to in the cumulative impact section (section #7), the cumulative impact was not shown as being modeled. This should also include all of the impacts of all permitted users. In this readers opinion, the assessment performed did not adequately reflect the cumulative potential withdrawal impact to the resource of all of the permitted users in the CFPD. Thus, the impact of the CFPD users on the resource has potential to be significantly underestimated. As such, the actual resource available for base flow may be insufficient to meet the need of the system. | The revised groundwater modeling presented in Appendix F of the Final AEIS includes evaluations of drawdown in the Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer(UFA). The groundwater model inputs include and consider groundwater withdrawals from WUP users in the following categories: agriculture, industrial, commercial, mining, public supply, and recreation. Only agriculture and mining had projected changes in withdrawal rates over time, and all other categories were held at a constant withdrawal rate. Appendix F includes summary tables that show the base well withdrawal rates for each model layer to clarify all the water use categories that are included in the model input. |
| 000000280-21 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.7.2 Floridan Aquifer Responses to Phosphate Mining Regional groundwater will increase in the Floridan Aquifer System (FAS) due to agricultural reductions by 2025, regardless of the mining scenario. However, the FAS scenarios presented do not incorporate all water use permits. In order to provide a water balance for the aquifer, all WUPs must be taken into consideration. The contribution of the FAS to base flow is stated and the projection of the potential for increases to the FAS water level is discussed. However, the impact of | The revised groundwater modeling presented in AEIS Appendix F includes evaluations of drawdown in the Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer (UFA). The groundwater model inputs include and consider groundwater withdrawals from WUP users in the following categories: agriculture, industrial, commercial, mining, public supply, and recreation. Only agriculture and mining had projected changes in withdrawal rates over time, and all other categories were held at a |

## Groundwater

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| | | | the loss of the SAS is generally ignored or minimized. The linkage between the SAS, wetlands and riparian waters in the headwaters of these area streams and rivers is critical and at the very least must be assessed. | constant withdrawal rate. Appendix F includes summary tables that show the base well withdrawal rates for each model layer to clarify all the water use categories that are included in the model input. |
| 000000280-34(a) | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 4-15, lines 16 - 30 and Appendix D Computer modeling to evaluate potential mining impacts to groundwater incorporates reductions in agricultural pumping of 50 million gallons per day (mgd) by 2025 to meet the goals of SWFWMDs Southern Water Use Caution Area (SWUCA) recovery strategy. Timely permit holder compliance with these reductions is uncertain and the use of the reductions in the model may result in a potentially overly-conservative estimate of possible effects. Running the model without the reductions would give an indication of impacts under a less idealized scenario. Also the stated method of allocating the reductions equitably to all agricultural wells may not be accurate. It is more likely that large corporate permittees, rather than the smaller (but numerous) independent users, would be more likely to implement the cutbacks. | In the Southern Water Use Caution Area (SWUCA) recovery strategy, SWFWMD will maintain current FAS allocations for all users at 650 million gallons per day (mgd), and also set a goal of reducing this total to 600 mgd by the year 2025 to meet SWIMAL requirements. To reach that goal, the water management district's strategy anticipates a reduction in groundwater use by agriculture of 50 mgd between 2005 and 2025 (SWFWMD, 2006). Allocations for groundwater withdrawals for other users are unchanged at their current levels. This required that the AEIS modeling evaluations account for projected agricultural use reductions of 50 mgd; but all other users' allocations were maintained at the 2006 rates included in the DWRM2.1 model. The impact of ths agricultural reduction is shown in the model results identified as: without agricultural reduction and with agricultural reduction in the groundwater section of Chapter 4 and Appendix F. |
| 000000280-39 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.4.1 Predicted Florida Aquifer Response to the No Action Alternative P. 4-65, Figure 4-20 and all drawdown maps and Appendix D What does the drawdown represent - annual average, maximum instantaneous? This should be explained in the text and figure title. Also, a representation of seasonal maximum draw-downs should be included.4.4.2.3 Alternative 4: Wingate East Mine P. 4-77, line 27 and Appendix D No new Floridan aquifer allocations are proposed for some proposed projects which, the AEIS states, will not increase the magnitude of drawdown but will extend the duration of the impacts. Duration can be as important an element of assessing impacts as magnitude and should be addressed. A time series showing maximum cumulative drawdown from all proposed and potential future projects should be included. | The referenced maps present the difference in water levels that occurs between two distinct pumping conditions. For these maps, the future scenarios are compared to base conditions established as 2010, and the difference in drawdown (or recovery) is mapped. A seasonal drawdown evaluation was added in the groundwater section of Chapter 4 and in Appendix F. The duration of all of the pumping scenarios is part of the model simulations. Each future year comparison is run at steady state conditions and compared to the base year 2010 conditions, also run at steady state. Therefore, the drawdown (or recovery) maps are comparing steady state to steady state conditions. |

## Groundwater

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| 000000281-5 | Sandra Ripberger | Private Citizen | The AEIS whitewashes the mining industrys current water management practices that emphasize conservation strategies designed to reduce reliance on the Floridan Aquifer System. There is no evidence presented to show that reduction in phosphate mining effects on the FAS has been accomplished. For the Ona mine, groundwater modeling results are used to indicate that the maximum drawdown of the two new mines would be four and six feet and that the relative zones of influence on the Florida Aquifer System would be localized. No effect is predicted for areas prone to salt water intrusion.Manatee County is prone to salt water intrusion and we do not find this modeling to be convincing. | SWIMAL is discussed in Section 4.3.1. The SWIMAL ROMP monitoring wells are used in all the AEIS groundwater model scenarios because they are the SWFWMD wells used to determine potential changes in the rate of saltwater intrusion. The potential impacts on SWIMAL monitoring wells are discussed for each modeled alternative. The cumulative impacts section of Chapter 4 presents the conclusions of the modeling. |
| 000000281-15 | Sandra Ripberger | Private Citizen | 3-67 The research by Bacchus et al 2011 regarding the effect of mining on groundwater and wetlands, hydrologically connected because of karst, should be addressed by the AEIS. The AEIS says there is disagreement about how much impacts are associated solely with phosphate mining. This dismissal is used throughout the study when urban effects and agriculture are held responsible for water use. It is revealing that the industry expert Garlander can state unequivocally that mining contributed less than 10% of the drawdown of Kissinger Spring. The vanishing of this spring is attributed to the long-term deficit in rainfall from the 60s to the 90s. Earlier, for different purposes, the study states Over the last century there has been no significant change in annual rainfall. | The surficial aquifer is evaluated in the revised modeling in Appendix F of the Final AEIS to address the amount of predicted drawdown in the surficial aquifer under future mining scenarios. |
| 000000281-23 | Sandra Ripberger | Private Citizen | 4.4 Groundwater Resources This section projects a population increase in the area of the proposed mines to 4 million from 3.3 million and suggests that existing phosphate mining water allocations would likely be sought by other users given the no action, non-approval alternative. This is unlikely in the current economic environment and given the rural and agricultural nature of the area. | Comment acknowledged. |
| 000000281-24 | Sandra Ripberger | Private Citizen | 4-70 SWFWMD has established a Saltwater Intrusion Minimum Aquifer Level, SWIMAL. This information is not developed and the decrease in water use if phosphate mining were not expanded is minimized. | SWIMAL is discussed in the groundwater section of Chapter 4. The SWIMAL ROMP monitoring wells are used in all the AEIS groundwater model scenarios because they are the SWFWMD wells used to determine potential changes in the rate of saltwater intrusion. The potential impacts on SWIMAL monitoring wells are discussed for each modeled alternative. The cumulative impacts section of Chapter 4 presents the conclusions of the modeling. |

## Groundwater

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000370-1 | Maynard Hiss | Private Citizen | My concerns are specifically with groundwater recharge and infiltration and groundwater pollution. | Groundwater recharge and infiltration issues are addressed through the revised groundwater modeling evaluations presented in Appendix F and in Chapter 4. Groundwater quality impacts are addressed in the groundwater and cumulative impacts sections of Chapter 4 of the Final AEIS. |
| 000000370-4 | Maynard Hiss | Private Citizen | 7)There are lots of septic tanks and other existing sources of pollutions that will move faster into the aquifer as the groundwater table is lowered and there is less resistance to underground flows. This includes agricultural areas, superfund sites, etc where pollution can move faster into the aquifer. Have you mapped these areas of point and non-point pollution sources and looked at the potential for the increased movement into the aquifer either in recharge and directly as surface water as the aquifer is drawn down. In the phosphate region this includes not only the natural pollutants but mining related pollutants, radon and other radioactive elements, as well as pollutant from changing soil chemistry under the slime ponds and slime pond spills that enter the groundwater. | The drawdown resulting from mining is presented in the Appendix F. The amount of drawdown is not expected to change the infiltration rate, groundwater velocity, or other factors that may affect movement of pollutants. |
| 000000370-5 | Maynard Hiss | Private Citizen | The groundwater aquifiers have different types of pressures controlling the flows of water underground. Some of the water quality in the different aquifers is different than others. There is also pumping into these different aquifers, through deep well injections. These groundwater injections also affect the flows and mixing of the natural potable aquifer with the non- potable water aquifer. When there is extreme drawdowns of the aquifer the mixing can be significant. But not much is know about how the mixing occurs, and the cummulative impacts over time. Is there modeling to see how the drawdowns will affect the flows of water in the aquifer and the potential adverse impacts on water quality in the aquifer. | Deep injection wells are typically permitted only in the lower Floridan aquifer system, below the middle confining unit of that aquifer. Potential impacts to potable water quality are evaluated by FDEP prior to issuing injection permits and during injection well operations through the use of deep monitoring wells. |
| 000000370-7 | Maynard Hiss | Private Citizen | 11) At the peak of concentrations of pollution in the groundwater during drought these areas may also be more suceptiable after droughts as groundwater seepage from other aquifers and salt water intrusion and highly concentrated run off goes into the aquifers and fills it up at a faster rate than recharge areas which are now covered by gymsum stakes and slime ponds..12) There may be a negative impact loop where pollutants become more and more concentrated into the aquifers as they settle down. However, | Water quality issues are addressed in the water quality section of Chapter 4 of the Final AEIS. |

## Groundwater

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| | | | the pollutants may be stirred up during certain times of year when there is increased flows of water in the aquifer. In some cases there may be sediment or pollutant traps where certain pollutants concentrate underground. Much like sediments concentrate behind a dam and constantly buid up. So there may be highly negative effects on some areas and less impacts in other areas. The study does not address where the greatest vulnerabilites to the pollution are. And what can be done if an impact does occur. | |
| 000000370-9 | Maynard Hiss | Private Citizen | The natural groundwater may also not be drinkable without treatment. In the cases of natural rivers it is easy to see the pollution. For a natural spring water company or municipal provider of potable water there is extensive filtering and testing of the water. However, for people who have wells and septic tanks there may be little or no monitoring. If there is an impact to the water quality many will not know as impacts my be specific to an individual type or cummulative, or concentrated in certain areas or depend on confounding facts such as whether the people drink the water, how much they drink the water, and what time of year they drink the water. | Water quality issues are addressed in the water quality section of Chapter 4 of the Final AEIS. |
| 000000371-18 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The new mines will need groundwater permits the AEIS should summarize the estimated amounts of water needed by these new mines in the ES (although this information is contained later in the document). One would assume that the new mines aren't going to stop mining during extended droughts (similar to the existing mines) that have occurred during the last decade. This means that under such dry conditions maximum daily/monthly amounts of ground water might be needed under District permits how much would these maximum water quantities be relative to the annual daily averages quantities of water provided in the AEIS? | The groundwater modeling presented in the groundwater section of Chapter 4 and Appendix F was revised to use permitted quantities for all users, and permitted drought year quantities for the mines. |
| 000000371-19 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The EIS has found that during mining, drawdowns of ground water levels at the ROMP wells are small. This conclusion most likely is highly influenced by the fact that almost all the romp wells are not in close proximity to mining activities and therefore might be expected to show little to no water level impacts. | The revised modeling includes evaluations of ROMP wells in, and immediately beyond the study area. Some of these wells are quite close to the proposed new mines. The groundwater modeling results presented in the groundwater section of Chapter 4 and Appendix F reflect the relative influence of the projected mining withdrawals on the FAS within the CFPD as well as at other regionally relevant indicator ROMP well locations. |

## Groundwater

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| 000000371-32 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The Water Management District's planned improvements to FAS levels assume increases due to landuse changes from agriculture to urban. Urban land use in this area may very well require ground water as a source of supply. Currently most reclaimed mined land reverts to agriculture land use. The AEIS needs to evaluate this possibility and the resulting impacts. The AEIS does not state what the existing permitted District groundwater withdrawal values for mining currently are or what they are projected to be over the future. (It does provide estimates for annual average usage amounts for the mines over time in Chapter IV). | The groundwater modeling information presented in the Final AEIS Appendix F identifies permitted quantities for all users, including the existing as well as proposed new mines. Prediction of future land use changes within the study to estimate possible population-related groundwater withdrawal/allocation changes was not done due to the uncertainties associated with such projections. The District's SWUCA plan allows for existing public, industrial, mining, and recreation uses to continue indefinitely, but constrained by cumulative allocations as applied to the groundwater modeling scenarios evaluated. |
| 000000371-43 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "Some of the key issues of concern regarding the affected environment are the relative rates of mine block reclamation with this sand material, and the physical characteristics of the reclaimed land areas as compared to native, unmined lands -- again in relation to potential residual effects on recharge rates for the SAS, aquifer flow characteristics, and/or runoff rates contributing to steams and downstream river reaches" The AEIS addresses the slurry movement of mined material to the beneficiation facilities, but does not seem to consider potential localized impacts of pumping substantial amounts of local water and transferring this water among different subbasins resulting from such practices. The primary focus of this section of the AEIS seems to be on the additional economic costs of extending piping greater than 10 miles. | Surface water impacts from changes in land use within the mined areas are taken into account in the surface water evaluations. Groundwater impacts from changes in land use within the mine have been added to the Final AEIS by modifying the recharge rates over time, based on the specific land uses within the mines. |
| 000000371-46 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Although phosphate mining water use has been dramatically reduced since the 1970s, phosphate mines continue to use FAS withdrawals to provide supplemental water on an as needed basis. Evaluation of potential effects of expanded phosphate mining within the CFPD on the FAS will need to address the potential for aquifer drawdown impacts similar to those documented in the upper Peace River Basin. Typically, each mine's historical Water Use Permit provided a maximum annual average as well as either a maximum daily or a peak month withdrawal allocation, and through conservation and alternative water supply management strategies, the existing mines have succeeded in operating well below their permitted withdrawal limits." While this statement is true, the use of ground water will always remain an option for the mines and in dry years the pumping of ground water can/will be increased significantly to make up for the lack of rain water | The groundwater modeling presented in the groundwater section of Chapter 4 and Appendix F is based on annual average permitted quantities for all users, and drought year permitted amounts for the mines. Therefore, this conservatively represents long term average individual mine and cumulative impacts during maximum permitted groundwater usage. It is acknowledged that seasonal withdrawals during dry conditions would be constrained by the permitted peak pumping rates rather than the annual average rates. A transient model evaluation was made to develop a monthly demand for each water use type so that seasonal variations could be presented. Regional water use allocations are under the jurisdiction and permitting authority of the SWFWMD and were not addressed through the NEPA process. |

## Groundwater

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| | | | contribution to the recirculation system. The AEIS needs to take this condition into account, and provide estimates of the amounts of water that will be needed and expected impacts under extended dry periods such as that which occurred between 2006 and 2008. The AEIS also does not document the total current amount of permitted and actual mining withdrawals. Should the AEIS evaluate/recommend that the currently permitted amounts of FSA withdrawals be reduced over time? | |
| 000000371-61 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Groundwater. "The USACE concluded that an independent analysis of FAS impact potential that went beyond the available information was needed. A groundwater flow model was developed to support AEIS evaluations of the potential effects of the four proposed new mines' water supply withdrawals on groundwater levels in the FAS. .... Ona would require new water supply wells and an allocation from the FAS. Desoto is proposed to rely on water supply drawn from an existing phosphate mine well system, with pipeline conveyance to deliver the water to the new mine location." If the FAS is already impacted (SWUCA), then how can AEIS skip analyzing the impacts of transferring water from an old mine to a new mine in the cumulative assessment? Yes, transferring withdrawals from one mine to another doesn't make any new impacts, but by the same token it also doesn't allow the current impacts to go away with the closure of the old mine as was originally envisioned under the existing water use permit. Finally the existing mine's need for water and the new mine's need for water will overlap and the impacts significantly greater during this period. o The inability to assess the no action alternative shows the flaw of the underlying assumption when assessing impacts - mining uplands would still require water from the FAS o Again, annual average FAS were used to model groundwater withdrawals is this the conservative way to do this? Existing data would suggest that maximum drawdown would occur in the dry-season when there isn't any rainfall to use and agriculture groups are also irrigating crops? o "Conversely, it is acknowledged that under drought conditions, increased pumping rates and longer duration FAS withdrawals can be needed. For this AEIS evaluation, however, the analytical focus was on long-term average conditions and the conservative approach adopted | The groundwater modeling presented in Appendix F is based on permitted quantities for all other users, and drought year rates for the mines. Therefore, this accurately represents individual mine and cumulative impacts during maximum permitted groundwater usage. The simulations include the effect of the SWUCA anticipated agricultural withdrawal reduction by simulating water level changes with and without the reduction. Therefore, a reasonable amount of conservatism was used that is consistent with the SWFWMD policies. |

## Groundwater

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| | | | was to conduct the model simulations using the annual average allocation rates", The AEIS is not conservative enough when considering the impacts to downstream flows and public water supplies. Wouldn't it have been "more" conservative to adjust to max day withdrawals during the dry-season and adjust the wet-season to come out with the same annual average? o The model simulations "assumed" that the District would meet a 50 mgd reduction in permitted agricultural groundwater use goal by 2025. Wouldn't it have been "more conservative" not to include these reductions, which may not occur depending on urban demands for land - let alone more regional demands in the CFPD for potable water? | |
| 000000371-71 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS states that under the no-action alternative (no mining at the four new mines) the current demand for water from the FAS "would be reduced and over time this demand for supplemental water to support the remaining activities on phosphate mines would drop to zero". This statement supports the view that projected impacts to the FAS in the AEIS can't be based on the "fact" that two of the "new" mines aren't going have impacts to groundwater. | The No Action Alternative simply states that FAS water demand would be eliminated when mining ended. |
| 000000371-72 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS states that if mining doesn't take FAS water then someone else will. If mining does take the FAS water, AEIS evaluation cannot assume that other watershed demands (urban/agricultural) won't be simply shifted and total impacts will be further increased. | It is assumed that the SWFWMD will implement the SWUCA policy which will limit overall impacts to the region while still allowing some increased pumping in certain areas. Those increases will be offset by reductions in agricultural use and alternative water supplies. |
| 000000377-2 | Dr. Margaret M Niklas, BS Biology, DVM | Private Citizen | My husband is an irrigation contractor and has been in the business for 30 years. He has witnessed the stresses on our ground water systems over that time. Watering banns have tightened continuously, never relaxed. We have learned from our neighbor who owns a well-drilling business about the resources that are, and are not, available. If a shift in the groundwater (resulting from the mining process) causes salt water intrusion in the local coastal counties, my husband could potentially lose his business on top of the catastrophe it would be for people both locally and in surrounding areas that rely on groundwater for drinking water. | Saltwater intrusion has been evaluated in the 2002 study by the SWFWMD "Saltwater Intrusion and the Minimum Aquifer Level in the Southern Water Use Caution Area, Draft Report". This study established a Saltwater Intrusion Minimum Aquifer Level (SWIMAL) metric for the monitoring of Floridan aquifer levels within the SWUCA. This metric is a weighted average of the levels in 10 monitoring wells in the Most Impacted Area (MIA) along the west coast. The SWIMAL metric as presented in the groundwater section of Chapter 4 and Appendix F. |

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| 000000377-3 | Dr. Margaret M Niklas, BS Biology, DVM | Private Citizen | I understand the mining process of "beneficiation" requires the use of huge amounts of water. Although the mine company proposes to pipe water in from one of its older mines in order to lessen the impact of the water requirements, what if their idea doesn't work or doesn't work as expected? Our groundwater will be the only solution. Even excluding that possibility, as the mining operation digs through the substrata of the ground, the structure of the aquifer system is destroyed. Ground water from different levels in the system will be mixing together and will be diverted from its normal level in the strata. Not only will this disturb the natural circulation of ground water and the natural content of minerals in various levels of the aquifer, but it will also cause shifts of other tributaries far away from the proposed sites that co could have serious consequences, impacting people farther away than anyone imagined. | Comment acknowledged. |
| 000000378-16 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 16: The AEIS provides minimal acknowledgement of ecological impacts associated with dewatering-induced drawdowns of surficial aquifer systems. The AEIS (pp. 21-22; 3-60) acknowledges that with mining-associated dewatering of surficial aquifer systems, the potential exists for hydrologic impacts to occur to environmentally sensitive habitats. The AEIS notes that the traditional ditch and berm systems have been variably effective in maintaining SAS water levels, and that localized drawdown effects may range from minimal to up to 20 feet of drawdown, depending on site-specific conditions. The AEIS further notes that this type of drawdown effect (approximately a 10-foot drawdown effect) can occur in areas where drawdown throughout the water table occurs in spite of water table management efforts. The AEIS then states that the most promising approach identified to date involves inclusion of recharge ditch features to promote hydrologic barrier effectiveness in preventing water table drawdown impacts on the protected preserve areas. The AEIS then provides an example of a site where a recharge ditch system successfully prevented adjacent drawdowns (Figure 3-33). However, the AEIS presents no counterbalancing examples of where recharge ditches intended to protect wetland resources have failed to do so. My own independent field observations of ditch recharge systems (as well as ditch and | SWFWMD has moved toward an increased focus on impact minimization through incorporation of monitoring and impact avoidance measures in recent water use permits issued for mining operations. The potential dewatering effects of mining on surrounding wetlands and streams, and the associated measures that are implemented to mitigate dewatering of these habitats are discussed in the ecological resources section of Chapter 4. |

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| | | | berm systems) have shown that they are subject to failure with regard to maintaining the natural hydrologic regimes of adjacent and/or downslope wetlands. While it is appropriate for the AEIS to mention examples of successful minimization of dewatering impacts, the AEIS should also have examined very closely the frequency of, reasons for, and ecological consequences of recharge ditches failing to perform properly. Nowhere in the AEIS is there such a discussion of the ecological impacts associated with dewatering at locations where recharge ditches fail to provide adequate protection. | |
| 000000385-12 | Jono Miller | Private Citizen | Incredibly, there is no mention of Warm Mineral Springs in the DAEIS. Warm Mineral Spring is the warmest and most mineralized spring in the state. In addition, Warm Mineral Spring is arguably the most unique ecological, hydrological, archaeological, paleontological (fossil) and geological feature in Sarasota County, and with an average flow reported to be around 10cfs even a small decline would severely compromise the value of this feature, which recently came into public ownership at a cost of $5.5 million. | Warm Mineral Springs is well outside of the study area. The modeling indicates there will be a slight rise in the Upper Floridan water level in the area of the spring over the period of the study. |
| 000000387-6 | Mary Olsson | Private Citizen | For this proposal, I ask for your further detail explaining the following exclusions in the consideration of cumulative and future impact in the area: 1. P. 1-24, line 17-21 The Hardee County Mining Overlay South Segment is a potential future mine with (Pioneer and Pine Level/Keys Tracts) sites were not considered, due to insufficient data. Why are sites not an anticipated factor in the cumulative impact assessment, especially surface and groundwater quantity and quality analyses. 2. P. 1-24, line 22-35 In-fill properties (parcels adjacent to or near proposed mine sites that may be acquired by the mine companies) are not considered in the impact analysis. Why the total area isnt included to establish a total cumulative effect. | The Pioneer and Pine Level/Keys Tract site have no mine plans which would provide identification of mine specific future impacts. The Pioneer and Pine Level/Keys Tract sites are proposed to use the Ona and Desoto Mine's beneficiation plants and associated groundwater supply wells; thus, minimal new groundwater impacts due to FAS withdrawals will be contributed by these mine extensions. Infill parcels are considered small spatially when considered with respect to the overall mine plan and for the reasons described in Section 1.3 Scope of the Final AEIS, are not specifically addressed within the cumulative impact context. |
| 000000387-9 | Mary Olsson | Private Citizen | The data integration and synthesis and the predictive models of field operations methods used are of the same past standards. What is the variability in the development and evaluation of tolerance values and predictive models for measuring the biological integrity and impairment to the waters involved? | Using observed data includes the variability of these natural data. Comment acknowledged. |

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| 000000388-2 | Beverly Griffiths | Private Citizen | 2) I am unconvinced by the data provided in the draft study that the Floridan aquifer will rebound. The study presumes that the agricultural industry will be required to reduce their water consumption. But if the past and present are any indication, this is unlikely, since the industry has a strong lobbying presence at the state level and historically has operated under voluntary best management practices. | It is assumed that the SWFWMD will implement the SWUCA policy which will limit overall impacts to the region while still allowing some increased pumping in certain areas. Those increases will be offset by reductions in agricultural use and alternative water supplies. |
| 000000393-10 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | The CHNEP questions the accuracy of the analysis, comparing No Action to the Proposed alternatives. Only two Proposed mines are analyzed. The other two mines, South Pasture Extension and Wingate East, are expansions of existing mines, South Pasture Mine and Wingate Creek Mine. The DAEIS identified that Water Use Permits would move from the existing mines. Presumably, if No Action occurred, the existing Water Use Permits from South Pasture Mine and Wingate Mine will expire at the end of mining if no mine expansions occurred. The estimated end of rock production for Wingate Creek and South Pasture is 2013 and 2025, respectively. Under a No Action scenario, the withdrawal for the two mines would cease within the study period (except for a small amount associated with reclamation activities). Therefore CHNEP requests that cumulative groundwater modeling comparing No Action and Proposed alternatives include reduced mining withdrawals at the appropriate periods for No Action. | Alternate 1 does not include pumping from the Wingate mine after 2019 and from South Pasture Extension after 2025. |
| 000000393-16 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of Tables 4-69 and 4-70 (page 4-227 through 4-230). The tables do not cite maximum drawdown and maximum increase modeled for the alternative. CHNEP requests that the tables include modeled maximum drawdown and increase. In addition, CHNEP requests that the tables be ordered so wells that are most relevant are listed first (Upper Peace, Salt Water Intrusion Minimum Aquifer Levels (SWIMAL), then Ridge Lakes). | The drawdown values presented in the referenced tables are the value for each of the years presented in the table. There is no maximum or minimum for a given year, only the value. |
| 000000393-17 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the analysis relative potential impacts to existing wells. Existing wells are not identified in the DAEIS, however, water levels and cones of depression (or increase) for each alternative groups should be compared with the depths of existing permitted wells that intersect the cones. CHNEP requests that potentially impacted permitted wells should be identified and enumerated for each | The water level change in the SWIMAL wells and ROMP monitoring wells are determined because those monitoring wells are used by SWFWMD to evaluate and regulate impacts to the Floridan aquifer. The District's well file was evaluated to determine the number of well owners who are within the area with greater than the projected 1 foot of drawdown. The results are discussed in the groundwater section of the Final |

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| | | | alternative set. | AEIS. |
| 000000396-1 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Executive Summary, Page 32, Lines 12 and 13 - Previous SWFWMD analysis has shown that even with the projected decrease in groundwater withdrawals, springflow contributions (i.e., Kissengen Spring) will not return to the Upper Peace River. However, SWFWMD does expect to see some increased contribution of baseflow to the Upper Peace River with the projected decrease in groundwater withdrawals. Chapter 3, Page 3-36, Line 21 The Peace River Cumulative Impact Study was funded and managed by the Florida Department of Environmental Protection (FDEP), not SWFWMD. SWFWMD provided technical assistance to FDEP. Chapter 3, Page 3-50, Table 8-10 Please confirm that 0 cfs flows in each block are correct. Chapter 3, Page 3-52, Line 9 Minimum flows for the Lower Peace River were approved by the SWFWMD Governing Board in May 2010 and are codified in Chapter 40D-8, Florida Administrative Code (F.A.C.). Chapter 3, Page 3-58, Line 25 The District suggests rewording text as follows: "where the Intermediate Confining Unit ICU becomes thin and discontinuous in the northern portion of the study area, the Surficial Aquifer System (SAS) may be in direct hydraulic connection with the underlying Floridan Aquifer System (FAS)." Chapter 3, Page 3-62, Lines 1 through 5 Please note that the descriptions in the paragraph are "potentials" for upward or downward movement. The degree of such upward or downward movement depends upon the thickness and permeability of the confining units. Chapter 3, Page 3-63, Line 21 The District suggests rewording the last portion of this sentence as "downstream of Dover Sink." The addition makes the sentence geographically correct when describing the locations where the effects of sinkholes are less obvious. | Comment acknowledged. Text in the Final AEIS was revised to incorporate these changes. |
| 000000396-2 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 3, Page 3-63, Line 26 Please note that Kissengen Spring ceased continuous flow in February 1950. Suggest using H.M. Peek (1951) Florida Geological Survey report to reference cessation of flow from Kissengen Spring. Chapter 3, Page 3-65, Lines 11 through 16 The phosphate industry's groundwater use was a major factor in the decline of flow at Kissengen Spring. The phosphate industry continued to be a major user of groundwater, with withdrawals peaking in 1975. However, over the last 30 years, due to increased | Comment acknowledged. In the groundwater section of Chapter 3 of the Final AEIS, the discussion of Kissengen Springs was revised to correct the flow cessation date to 1950. The reference to 10 percent is a contemporary portion of the total flow within the SWUCA and the text was revised to make it clear the industry was a larger percentage in 1950. |

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| | | | conservation and surface water storage, the phosphate industry now only withdraws approximately 10% of all groundwater used in the SWUCA. The text appears to draw erroneous conclusions between the statements of the USGS and John Garlanger. Please clarify. | |
| 000000396-7 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 4, Page 4-9, Line 15 DWRM 2.1 was completed in March 2011. Please clarify whether the DWRM Version 2 or 2.1 was used in the groundwater model analysis. If the DWRM Version 2.1 model was used please reference accordingly. | DWRM2.1 was used in the AEIS groundwater modeling analysis. The applicable text was revised to clarify this. |
| 000000396-8 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 4, Page 4-15, Line 16 A "hard" cap on groundwater withdrawals does not exist in the SWUCA. It was estimated that groundwater withdrawals would need to be reduced by up to 50 mgd, from about 650 mgd to 600 mgd, in order to meet the minimum aquifer level. If the reductions were optimally distributed the reduction could be less than the 50 mgd. It was anticipated that the reduction could be achieved through activities such as conservation, retirement of permitted quantities, and land use transitions (SWUCA Recovery Strategy, p. 47). Chapter 4, Page 4-15, Line 18 The SWUCA recovery strategy does not "call" for reductions in agricultural water use. It recognizes that, based on the demand projections at the time the strategy was developed, agricultural lands were transitioning to urban uses and that the water use associated with those activities could be retired and/or converted to public supply uses. The transition of land uses from agricultural to urban has slowed as a result of the economic recession. | In the Southern Water Use Caution Area (SWUCA) recovery strategy, SWFWMD set a goal of reducing the total FAS withdrawals to 600 mgd by the year 2025 to meet SWIMAL requirements. To reach that goal, the water management district's strategy anticipates a reduction in groundwater use by agriculture of 50 mgd between 2005 and 2025 (SWFWMD, 2006). Allocations for groundwater withdrawals for other users are left at their current levels. This required that the AEIS modeling evaluations account for projected agricultural use reductions of 50 mgd; but all other users' allocations were maintained at the 2006 rates included in the DWRM2.1 model. |
| 000000396-10 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 4, Page 4-71 Table 4-17 It is unclear how the simulated change in the SWIMAL numbers were calculated. The values do not appear to correlate with the individual changes for each well. Please clarify. Chapter 4, Page 4-72. Figure 4-25 The Romp 87 well is located in the Green Swamp, outside of the CFPD. This well was used by Professional Water Resources to show the difference in response from an area with a leaky semi-confined Upper Floridan aquifer to typical well-confined UFA conditions further south in the SWUCA. | Saltwater intrusion was evaluated in the 2002 study by the SWFWMD "Saltwater Intrusion and the Minimum Aquifer Level in the Southern Water Use Caution Area, Draft Report". This study established a Saltwater Intrusion Minimum Aquifer Level (SWIMAL) metric for the monitoring of Floridan aquifer levels within the SWUCA. This metric is a weighted average of the levels in 10 monitoring wells in the Most Impacted Area (MIA) along the west coast. The projected changes in the SWIMAL metric are included in the tables in the groundwater section of Chapter 4 and Appendix F. |

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| 000000396-11 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 4, Page 4-63, Lines 27 through 32 and Chapter 4, Page 4-82, Lines 6 through 8 - Throughout the report, net benefit" is treated as a universally required permit condition. The SWUCA Recovery Strategy identifies "net benefit" as a narrowly-prescribed option that only applies to permit applications for new quantities that affect an MFL water body already below its minimum (SWUCA Recovery Strategy, p. 117). Chapter 4, Page 4-193, Lines 4 through 20 The report should emphasize that in most of the CFPD the UFA is well-confined except for the small section of the upper Peace River and the extreme northern portion. Chapter 4, Page 4-197, Line 23 through 25 Section 373.042, Florida Statutes is related to withdrawal impacts only and not land use changes. | Comment acknowledged. |
| 000000396-12 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 4, Page 4-207, Lines 30 through 34 Please note that for modeling purposes, the USACE treats a 50 mgd reduction in agricultural water use quantities as a compliance target. The 50 mgd reduction contemplated in the SWUCA Recovery Strategy is more accurately characterized as a worst-case scenario goal. In fact, this quantity has "been expressed as 'up to 50 mgd' because if groundwater withdrawals were optimally distributed throughout the SWUCA, withdrawals could be reduced by less than this amount to achieve the minimum aquifer level" (SWUCA Recovery Strategy, p. 47). | The SWUCA Recovery Strategy goes on to state on page 47 and 48 that in order to achieve a net reduction of 50 mgd due to growth into permitted but unused groundwater allocations, the District estimates that an additional 25 mgd reduction must be achieved for a total reduction of 75 mgd. Therefore, if reductions occurred in optimal locations, less than 50 mgd may be required, however, if withdrawal reductions do not occur in optimal areas and/or unused permitted allocations are accessed, it could require greater than 50 mgd reductions. Based on the range of uncertainty, using 50 mgd in the future modeling scenarios was considered a reasonable approach. |
| 000000396-13 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Appendix D Please clarify whether DWRM Version 2.0 or 2.1 was used in the model and reference accordingly. | DWRM2.1 was used in the AEIS groundwater modeling analysis. The AEIS text was revised to clarify. |
| 000000396-14 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Appendix D, Figure 7 The model's constant head boundaries are appropriate for the Gulf of Mexico boundary but not the other three sides of the model grid where they should be no flow boundaries. It is unclear how this boundary condition influences the scenario results. Please clarify. Appendix D, Page 14 Line 14 The text explains that only 9 out of the 10 wells used to calculate the SWIMAL were included in the analysis because one of the wells was not within the model domain. From the wells listed in Table 3, it looks like ROMP TR8-1 is the missing well. Based on visual comparison of maps showing the location of this well with the model domain shown in Figure 7, this well does appear to be located within | The Appendix F groundwater modeling was revised to use the entire DWRM2.1 model domain, thereby eliminating the TMR extraction area. The number of ROMP wells has been expanded to 85 to cover a wider area in and around the study area and to cover SAS, IAS, and UFA aquifers. |

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| | | | the model domain. However, similar to ROMP TR 9-3 and possibly ROMP TR 10-2, the well does appear to be close to the boundary which could affect the reliability of model results. Please explain why the model boundary was located as shown in Figure 7 and to what extent the model results at these wells are being affected by the boundary. | |
| 000000396-15 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Reference is made to a regulatory cap of 600 mgd beyond 2025 as part of the SWUCA Recovery Strategy. SWFWMD has a recovery strategy goal of a net reduction of 50 mgd from the Upper Floridan aquifer by 2025, but there is no regulatory cap on withdrawal quantities. Also, there are no "SWFWMD-imposed cutbacks on agricultural withdrawals" in the SWUCA. These two items factored into the groundwater modeling simulations discussed in Appendix D. | In the Southern Water Use Caution Area (SWUCA) recovery strategy, SWFWMD set a goal of reducing the total FAS withdrawals to 600 mgd by the year 2025 to meet SWIMAL requirements. To reach that goal, the water management district's strategy anticipates a reduction in groundwater use by agriculture of 50 mgd between 2005 and 2025 (SWFWMD, 2006). Allocations for groundwater withdrawals for other users are left at their current levels. This required that the Final AEIS modeling evaluations account for projected agricultural use reductions of 50 mgd; but all other users' allocations were maintained at the 2006 rates included in the DWRM2.1 model. |
| 000000397-17 | US Environmental Protection Agency, William L Cox | Federal Agency | 8. DAEIS Analysis of Potential Impacts to the Floridan Aquifer The DAEIS appropriately assessed the potential of the proposed mining to affect the water quality of surface waters draining off of, or downstream from, mined or reclaimed lands. The DAEIS also found that CFPD groundwater resources include three aquifers, two of which are most at risk of being influenced by phosphate mining: the Surficial Aquifer System and Floridan Aquifer System. The DAEIS found that in the southern areas of the CFPD, where the intermediate aquifer system is well developed, "the potential for water quality effects to penetrate to the Floridan is low." EPA is concerned, though, that this is not the case in the northern portions of the CFPD, where a well defined intermediate confining unit/intermediate aquifer system is not present. The DAEIS found that "surficial aquifer communication with the upper Floridan aquifer can occur" in the northern portions of the CFPD. Groundwater modeling using a model derived from SWFWMD's District Wide Regulatory Model (DWRM) was conducted to project the relative influence of the two proposed new mines (Desoto and Ona) on the Floridan Aquifer System. Modeling of the other two individual projects was not performed because those are extensions of existing mines; no new Floridan Aquifer water allocations are involved | Comment acknowledged. |

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| | | | in their operations. Modeling of other alternatives' potential effects on the Floridan Aquifer was not performed, but effects are projected based on interpretation of the above evaluations. EPA Recommendation: EPA Region 4 is currently reviewing the modeling efforts, and our Ground Water and Safe Drinking Water Enforcement Section will be providing technical input and assistance for the preparation of the FAEIS. | |
| 000000542-52 | Percy Angelo | Private Citizen | We have supplied to you studies by the US Geological Survey (USGS) which demonstrate that past mining has contributed to a drop in the Floridan aquifer which has led to loss of flow in the Peace River and the drying up of springs, such as Kissengen Spring. Despite this information, the DAEIS compares further reduction in flow from mining is compared to the flows already degraded by past mining. This is manifestly improper. The USGS studies were contained in submittals by Percy Angelo on April 13 and April 19, 2011. These same USGS reports provide data demonstrating that the likely natural, premining condition, included artesian conditions, gaining streams, etc.; quite different from the reduction of Peace River flow, the entire loss of springs such as Kissengen Springs, and other impacts attributed by the USGS, in part, to mining. See also Ex. 4, p. 2 (map of artesian conditions). | Comment acknowledged. |
| 000000542-53 | Percy Angelo | Private Citizen | It is this nonmining state which must be used as the baseline for analysis in the EIS for any further mining, for water issues as well as wetland preservation, because if no further permits are issued the mining impacts will eventually diminish as reclamation is completed and groundwater pumping ends. As discussed below, the DAEIS fails to consider the cumulative impacts of mining by separately identifying projected aquifer reductions and flow decreases from separate mines, and the impact of existing mines, without ever adding them together. Its underlying error, however, is the failure to identify the aquifer and flow recovery which would occur under the No Action Alternative, AFTER CURRENTLY PERMITTED MINING SUPPOSEDLY CEASES (It is hard to identify a clear date as the miners say they may add infill properties and extend their mining dates). This no mining scenario is the true base case, the true No Action Alternative. | The revised groundwater modeling presented in AEIS Appendix F includes evaluations of Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS) and Upper Floridan Aquifer (UFA) drawdowns within the footprint of individual mines, as well as cumulative mining effects. Section 6.1.1 of Appendix F Groundwater Modeling presents results of the analysis to the year 2060, after all mining has ceased. |

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| 000000542-61 | Percy Angelo | Private Citizen | On February 16, 2012 SWFMWD gave notice that it proposed to issue Mosaics new Mega-Water Use Permit (Mega WUP). Exhibit 7 (excerpts). The Mega WUP provides an annual average pumping allocation of 69.6 MGD, and a peak month limit of 87 MGD. The need to consider actual peak usage is recognized by SWFMWD, it should not be ignored by the AEIS. Floridan aquifer groundwater usage for mining is 85 mgd or 8.5% of total usage, 4-195, a substantial commitment of our resources, for free. While the DAEIS touts the reduction in total usage from past extraordinary excesses, the fact remains that the miners are not willing to limit themselves to the levels of their low usage months or years. They insist on the right to peak month limits, in Mosaics case 24% higher than their annual average allocation. Inevitably they will take these larger quantities in drought, when every other user of the aquifer needs them too. Their impact must be measured by the damage they can in fact do. | Comment acknowledged. |
| 000000542-64 | Percy Angelo | Private Citizen | The DAEIS concedes, and there is a great deal of evidence to support it, that mining affects the water table and negatively impacts nearby wells, wetlands and streams. 3-68 to 3-74. See also a recent study by Sydney Bacchus and others showing the draining of wetland areas near mining operations. Ex.9. Reports of wells in the vicinity of even closed mines show water table drawdowns. A recent appeal of Mosaics MegaWUP documents water table damage to wetlands on the petitioners property in the vicinity of the Mosaic mines, concluding that Mosaics own data indicates that the mine plan and reclamation plan have failed to prevent impacts to on-site and off-site wetland water levels either preserved or created. See Ex. 10 (Cotter Report at 3, 9 and 12). And the USGS study of Little Charlie Creek provided in the Angelo April 13, 2011 letter, demonstrates the functioning of a creek and surrounding aquifer system BEFORE mining, with upward recharge of groundwater to surface waters, feeding rivers and springs, and contrasts it to the performance of mined watersheds, downward recharge of waters to groundwater, draining rivers. See also 3-61 to 63; Ex. 4. | As discussed in the groundwater sections of Chapters 3 and 4 of the Final AEIS, provisions have been added to recent WUPs by SWFWMD in recognition of the need to be proactive in identifying risks of dewatering impacts on adjacent natural areas and/or property owners' ability to use the water table on their lands within the legal bounds regulated by the State. Adherence to these provisions is required under the water management district's water use permits, and it is anticipated that these provisions will provide adequate protection against direct or indirect hydrologic impacts that may occur. |

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| 000000542-67 | Percy Angelo | Private Citizen | Notably, the limited work the DAEIS does do in fact shows a serious problem. Maps in the document show the results of simulated aquifer level drawdowns as a result of individual mine pumping and indicate significant impacts: slightly less than 4 feet for the Desoto mine, with the pumping occurring at the Fort Green mine in Polk County and the area of drawdown extending across much of the CFPD, 4-76, 6 feet at Ona, further south, with the area of drawdown to 0.5 feet extending across much of the southern part of the CFPD. 4-75 to 4-78. No analysis was provided for Wingate or South Pasture Extension. It is assumed they will continue the pumping of existing mines. And no analysis either is provided for the two alleged alternatives, Pine Level and Pioneer. | Drawdown in the Floridan does not necessarily indicate a problem. All water users cause drawdown and it is the cumulative impacts that need to be evaluated. That was done using the ROMP well locations and SWIMAL well water levels. Only minor drawdown is noted in a few ROMP wells when the drawdown from the new wells at Ona are incorporated into future All User simulations at the flexible pumping rate at steady state conditions. Since this is a much greater withdrawal rate and duration than will practically occur, no significant changes are indicated. |
| 000000542-68 | Percy Angelo | Private Citizen | The impacts identified must be added to the existing degraded state of the aquifer. This is not provided by the DAEIS. Nevertheless, a suggestion of the impact is provided by the Corps analysis of the No Action alternative. Because the Corps defined the No Action alternative to include the continued operation of existing mines, that circumstance was pictured at 4-65 through 4-69. Significantly, as those existing mines are phased out the depressed aquifer rebounds significantly, over 6 feet at the most impacted point, and the rebound extends well beyond the boundaries of the CFPD. 4¬ 69. This rebounded condition is much closer to the true base case and is an obvious improvement over current conditions. The improvement demonstrates just how bad things currently are. The DAEIS describes these improvements as relatively small. 4-70. Yet they represent an improvement of 15 to 30%, not relatively small by any normal use of those terms. And if the Corps had used the No Action alternative (phase out of mine pumping) with the improvement in aquifer levels which it models elsewhere from the limiting of agricultural pumping it is clear that a substantial improvement would be available. Using the 4-65 to 4-69 maps together one can infer the significant contribution of groundwater withdrawals for mining to a very degraded Floridan Aquifer System, degraded to the point that SWFWMD has declared the area a Southern Water Use Caution Area and has had to take measures such as limits on residential usage, a clear economic cost from mining which is borne by the general population. | The No Action Alternative is required within the NEPA EIS process and provides a reference from which the future actions can be compared. The No Action Alternative would have the existing permitted mining continue until approximately 2037 based on the current permitted mine plans. The rebound in Floridan Aquifer, discussed in the groundwater section of Chapter 4 and illustrated in Section 6.0 of Appendix F, shows a one- to two-foot rise in the Floridan Aquifer levels. This is a positive change, but when put into context with the seasonal variation in this aquifer of 20 to 40 feet, the change can be seen as reflective of the small percentage of aquifer use that is permitted to the phosphate industry when compared to the other industrial, agricultural, and urban users. |

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| 000000542-69 | Percy Angelo | Private Citizen | The text does not discuss these points. Apparently it is hoped that the reader will miss them. Instead, to cover the damaging information being conveyed, the draft creates a red herring, a discussion of the impact of mine pumping on wells west of the CFPD, where saltwater intrusion is already a concern as a result of overpumping for development and other uses, and east of the CFPD, and concludes that there wont be a lot of impact on these wells. But in fact the draft concedes, as it must, that Peace River wells, will be impacted, at least through 2045, 4-220, and the simulation at 4-69 shows clearly that the western wells, the saltwater intrusion wells, are already negatively impacted by phosphate pumping and will recover when pumping ceases. | Comment acknowledged. |
| 000000542-70 | Percy Angelo | Private Citizen | In order to minimize the mining impact the DAEIS assumes that everyone else will use less.- Oddly, when the DAEIS does what it pretends is a cumulative analysis, the charts of impact look like they get better. See 4-213, 215, 217, 219. This is because the analysis assumes that agriculture will pump less and no one else (e.g. residential uses) will use more, despite population growth. This is an argument which is used at several points in the DAEIS, any otherwise intractable problem can be ignored because SWFWMD will fix it. The DAEIS assumes that the excessive pumping by the phosphate mines will be offset in the future by SWFWMD efforts to limit pumping by anyone other than the miners. See e.g. 4-207, 230 (After 2025 SWFWMD will require 50 mgd reductions in pumping for agriculture and other users will be limited to 600 mgd). Leaving aside the likelihood that political reality will intervene, several facts demonstrate how incorrect these assumptions are. First, the DAEIS assumes that agriculture will increase from 665,000 acres to 1,027,000 acres in the Peace and Myakka watersheds by 2030. 4-201. The DAEIS also acknowledges that populations will continue to grow, and will need potable water (In fact, the Figure at 3-131 showing areas of expected population growth shows the 2060 growth occurring smack dab in the middle of the mining areas proposed for Desoto County), but concludes that these populations will just have to get their water from some other source (e.g. surface waters or wastewater or conservation). 4-63. The hypothetical 50 mgd SWFWMD reduction for all of agriculture is less than the Mosaic allocation alone, but no | Comment acknowledged. Note that water level impacts were modeled for the No Action Alternative with and without the agricultural withdrawal reduction anticipated in the SWUCA Recovery Strategy. All modeling was performed at drought year withdrawal rates instead of annual average rates making the modeling results very conservative. The SWFWMD is committed to the SWUCA recovery; therefore future groundwater use beyond those already permitted will be limited with surface water sources being proposed by the SWFWMD for public supply and will be evaluated on a case-by-case basis as part of their permitting process. |

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| | | | data is presented to support this hypothesis, which is just that. (The document does not address, for example how the volumes allowed to agriculture vs mining will actually restore the aquifer or how agriculture will cooperate in limiting use or how surface waters will be available for substitution when the mining companies also reduce the total surface waters available). It is clear that in fact the DAEIS is presenting a shell game, pointing to one option and then switching to another when the first is disclosed as useless. But most alarming, the only big user which will not be limited in water use in the future, under the assumptions of the DAEIS, is phosphate mining. This assumption, arrived at in order to avoid the troubling consequences of the modeling results, is contrary to the intent of NEPA. Mining consumption is not only large in the eyes of the public as claimed by the DAEIS, 4-207, it is large as an absolute measure, and absolutely nothing is being proposed to change that. | |
| 000000542-72 | Percy Angelo | Private Citizen | While the drafters may argue that the mining companies usually use less than their total water allocation, in fact they are likely to use the most during droughts (when their surface water systems are not fed by rain). Unfortunately this is also the time when the natural systems and everyone else need the water the most. Similarly they have parroted Mosaics hydrologist, Garlanger, in arguing that Mosaic recycles 95% of its water. 3-63. (Garlanger has also opined that Mosaic is only 10% responsible for the drying up of Kissengen Springs, 3-65, another odd use of science). This 95 % figure, however, does not mean the mining companies pump less than their permitted amount, it means that their actual water usage is many times more than the amount they can pump. In fact at another point in the DAEIS discussion it is noted that the decrease in surface water flows is due to the amount of water impounded at each mine. See e.g. 3-71. The actual amount of water, surface or groundwater, devoted to mining is extraordinary; yet the DAEIS does not address it. (One way to consider it is to look at the 95% recycling claim, which suggests a total usage of 1400 million gallons per day-if almost 70 mgd pumped represents 5%, total usage would be almost 1400 mgd. Another way to consider the impact would be to add the total pumping to the reductions in surface flow due to each mine, existing and new, perhaps using Ex. 1 again, but | Comment acknowledged. The mining water use was modeled using drought year pumping rates instead of annual average rates to develop very conservative results. The model simulations were also run at steady state conditions which is another conservative assumption when, in fact, the drought year rates connote be pumped for long periods of time without violating the mine CUPs. All other groundwater users were included in the modeling so the mining impacts are measured against the total groundwater demands. The seasonal water level changes were also evaluated using the model under transient conditions which means the recharge conditions are changed for each month to reasonably simulate seasonal changes in rainfall. Therefore, the modeling evaluates the spectrum of groundwater impacts, both long term, drought year, and seasonally. |

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| | | | the DAEIS doesnt provide the data to do that, though it clearly exists). | |
| 000000542-87 | Percy Angelo | Private Citizen | The DAEIS never acknowledges the permanent damage to base flow from CSAs-USGS studies have identified CSAs as an impediment to groundwater recovery by providing a permanent barrier to flow, both by blocking infiltration and by interrupting base flows. It is acknowledged even by the industry that CSAs can permanently occupy 40% of the post-mined landscape. The USGS estimates 40-60% and attributes flow loss in the upper Peace in part to CSAs lining the banks. The DAEIS recognizes extended periods to reclaim CSAs and limited uses once reclaimed, but doesnt define either one. 3-6. At 4-96 the document assumes 3 years, which it must realize is obviously insufficient since at 4-166 it refers to several decades. The DAEIS discusses groundwater lowering in the Floridan aquifer from pumping, and surface water capture by mine systems, but never addresses the loss of groundwater flow to the surface water systems such as the Peace River and Horse Creek due to CSAs. This is a serious omission. | The revised groundwater modeling incorporates changes to recharge and infiltration within the mines and includes CSA-affected portions of the proposed mines. |
| 000000542-135 | Percy Angelo | Private Citizen | The economic analysis also ignores some substantial additional costs of mining.-The discussion above notes some of the economic costs to the public already caused by mining. Extensive aquifer pumping, by mining and others, and the lowering of the Floridan Aquifer, leading to damaging saltwater intrusion, have led SWFWMD to create the Southern Water Use Caution Area or SWUCA. Within the SWUCA, residents and other users are required to limit their water use. Use of the aquifer resource by mining has directly impacted hundreds of thousands of residents. This cost is ignored by the DAEIS. The comments of Ralph Montgomery, provided as Ex.8, specifically note the failure of the DAEIS to address water impacts cumulatively and the fallacy of using only annual average data which hide the significance of seasonal low flows. Addressing the issue from the standpoint of public water supplies (the comments were prepared for the Peace River Manasota Public Water Authority), Montgomery notes the possible need to obtain additional storage capacity or additional water sources if the failure to consider low flow circumstances means that the Authority will not be able to withdraw water from the Peace or if reduced flows in the Big Slough means that the Authority will have to make up the | The relative levels of usage of the Floridan aquifer are described in the groundwater section of Chapter 4. The phosphate industry has a relatively low level of usage (about 10%), and it is likely that any economic impact related to groundwater usage would be similarly low. Potential effects on public water supply, both groundwater and surface water, are also discussed in Chapter 4. |

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| | | | difference. These very substantial costs have not been considered by the DAEIS. | |
| 000000542-139 | Percy Angelo | Private Citizen | The DAEIS further does not consider the lost opportunity cost which results from the dedication of such a large proportion of our ground and surface water to mining. This cost will grow larger as agriculture and population grows, as the DAEIS indicates it will, but the groundwater allocations are capped or even lowered, with the result that wastewater reuse, reservoirs, and costly conservation measures are required, or development is even impeded. It should also include the extensive damage caused by lowered water tables. Recently that damage has included sinkholes which develop when agriculture overpumps in order to protect crops in freezing weather. While agriculture is the immediate cause, the ultimate cause is the water table already reduced by phosphate pumping. The result has been substantial property losses and increased insurance costs. | The SWFWMD works with all groundwater users to conserve and extend the use of their water use allocations. The mining industry has adopted large scale recycling practices and the public water supply utilities apply conservation principals to their water use and management. Similarly, SWFWMD works with agricultural users on efficient irrigation and other crop management practices with the goal of reducing water use and peak demands. Therefore, the SWFWMD's goals apply to all users and the resulting costs to meet these requirements are paid by each, with aquifer systems remaining the focus of the SWUCA Recovery Strategy. |
| 000000542-165 | Percy Angelo | Private Citizen | The AEIS draft makes significantly different assumptions for important issues such as the length of time reclamation will take-from 3 years in some places, to 10 years in others to 16 for yet another. Compare 4-22 (3 years) to 4-166 (5 years), to 4-96 (6 years), to 4-26 (8 years) to 4-63 (10 years) to 4-89 (16 years). An assumption of 3 years used in calculating groundwater withdrawals and surface water capture can lead to grossly incorrect results if the actual time of impact is 16 years and leads to overlap with other mining. Assumptions about CSA reclamation are also inconsistent: three years at 4-96, several decades at 4-166. These are some obvious errors but they suggest that other underlying data may also be flawed. | The appropriate sections have been clarified in Chapter 4 of the Final AEI. Chapter 5 of the Final AEIS includes an extensive discussion of CSA and mine reclamation that also clarifies the time frame for reclamation of CSAs as well as provides a discussion of the mandatory reclamation schedule. |
| 000000553-3 | Percy Angelo | Private Citizen | While miners point to the fact that they are permitted to pump somewhat less groundwater on an average basis than in the past, in fact they are allowed shorter term pumping rates which are still 24% higher than their average. | The updates to the final groundwater model include, as described in Appendix F, both transient and steady state modeling. For the one year transient mode analysis, the recharge and well withdrawal rates were adjusted to average monthly rates using 7 years of historical data to reflect seasonal changes. The steady state analysis was conducted using drought year estimates instead of annual average flow values to represent more conservative conditions. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **CUMUL-1** | | | **The commenters below raised issues on the lack of full consideration of cumulative impacts and inadequate coverage of mitigation necessary to address cumulative impacts. Comments also included projected mining, scheduled reclamation, and assessment of overlap of mines operating at the same time. Comments also requested the AEIS include cumulative groundwater withdrawals and better clarify mines operating concurrently. Commenters stated that cumulative impacts failed to address surface water flow changes throughout the mining period. Commenters also stated that actual time frames of disruption from multiple mines were not adequately explained and mining impacts were not adequately characterized throughout the end of the century. One commenter, describing cumulative impacts, asked that all project contributions to cumulative impacts be defined including incremental effects in the same geographic area of impacts to ecosystem components. Another commenter raised concern over cumulative impacts to the Charlotte Harbor National Estuary Program. A related commenter indicated that the analysis of cumulative impacts did not follow a watershed based approach.** | **The Final AEIS has been revised to expand on the cumulative impacts analysis through the foreseeable future (2060) in the cumulative impacts section of Chapter 4. An expanded discussion of mitigation is provided in Chapter 5 to include a discussion of how the USACE will apply the appropriate sequencing of mitigation following the 404(b)(1) guidelines and the appropriate compensatory mitigation requirements following the Compensatory Mitigation Requirements.** |
| 000000272-120 | Sarasota County, FL, Christine Robinson | County Government | If cumulative impacts are discovered, then the EIS must include a discussion of measures to mitigate adverse environmental impacts of the proposed action. 40 C.F.R. 1502.16(h) (2012). The mere listing of mitigation measures is insufficient to satisfy the NEPA requirements. Northwest Indian Cemetery Protective Assn v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986) The EIS must analyze the mitigation measures in detail and explain the effectiveness of the measures | Included in summary response above. |
| 000000430-1 | USGS, Arturo E Torres | Federal Agency | The Draft Areawide Environmental Impact Statement (DAEIS) lacks a coherent organization, which makes it difficult to say with confidence what the cumulative impacts of the proposed mining could be. Chapter 3 presents some of the literature that might be used to support deductions made in Chapter 4 - Environmental Consequences. In Chapter 4, however, the DAEIS doesnt provide a parallel development of arguments regarding cumulative effects of phosphate mining within the | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | four main issues of concerns, provides no discussions of uncertainty, and relies too frequently on unsupported statements and suppositions. It lacks a linear progression of supported arguments that could lead to a conclusion. Although some of the conclusions about cumulative impacts to surface and groundwater cite results, those results rely heavily on analyses performed by CH2MHill for the AEIS instead of previously published investigations. Background material appears repeatedly in sections that should describe results. Where conclusions should be presented, the approach is restated, or else the issues being considered are restated. Conclusions that are not referenced to published results are presented at crucial places in the scientific argument and resemble opinion statements instead of substantiated findings. An exception is Section 4.7 ECONOMIC RESOURCES, where results and conclusions are presented and drawn in clear declarative statements and summary tables are used to compare alternative scenarios. The evidence may be disputed, but at least it is plainly presented. Economic impacts are not environmental impacts, however, and are not parallel to wetlands, wildlife, streams, and groundwater. This material should be moved to a separate section in the report. Other sections of Chapter 4 would benefit from clear declarative sentences, supported by quantitative results from citable references, to summarize the current evidence of cumulative environmental impacts of phosphate mining. | |
| 000000542-49 | Percy Angelo | Private Citizen | Throughout the DAEIS the document glosses over or ignores the actual time frames of disruption. In addition to the failure to consider the lives of the so-called alternative mines, as discussed below, it fudges the predicted reclamation periods, it ignores the numerous reclamation variances, it fails to mention the serious reclamation delays which are so extended that bond penalties have been imposed, and it fails to consider the essentially permanent damage of CSAs etc. It also does not address an obvious question, the ability of the methods of wetland analysis (UNAM or WRAP) to sufficiently account for periods in which wetlands are not available. It appears that the mining impacts will in fact be experienced through the end of the century. Nowhere does the document consider the consequences of that extended damage. The graph above and Ex. 1, the 4-191 graph of phosphate lands | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | mined and not yet reclaimed, illustrates this problem quite vividly. The end of the graph, in 2060, still shows 20,000 acres of lands mined and not yet reclaimed, some of those acres from proposed mines. Since those acres apparently do not include nonmandatory acres, or infill or small mine projects, the actual impact will be even worse. | |
| 000000550-24 | POW & LBC, James Cooper | Environmental Organization | What happens over the NEXT 50 YEARS in this DAEIS is NOT cited, or properly analyzed in a NEPA rules Watershed Systems Approach Cumulative Impacts analysis? Why Not? We know the regional human population will be increasing. This will create a greater Demand on the regional water supply. Yet, during this same timeframe, only 4 of 6 known large future mines are mentioned in this DAEIS and yet: only these 4 mines account for 52,000 acres of mining over 50 more years? Yet,the known 6 planned Phosphate Mining activities in this Region will actually increase the acreages mined by 40,000 more acres to a total of 92,000 future acres mined & the time frame of the mining will now extend out to 70 more years! What we do know, which is not properly analyzed in the DAEIS is that all of the future Mining (each mine) will continuously be decreasing our CFPD regional stream water flows downstream! A far better scientific analysis is required to fully understand what the true impacts are (based upon the raw Mine Plans) & then spend the proper time using the best available & current science (as required by 40 CFR 230) & them prepare a list of reasonable alternatives demonstrating mine by mine area in each Watershed Basin area, by mining friction point by friction point, & then devise methods for how they can be improved. If they cannot be improved, then decide how to either (1) Fully avoid them, or (2) Best seek new nearby watershed conservation lands with a minimum 2-1 Compensatory Mitigation in kind ratio for destroying them via mining: via the new rules & planning items specified per the 2008 CFR 40 Chapt. 230 Aquatic Lands Compensatory Mitigaton rules, which now absolutely require a Watershed based systems functionality approach! | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000550-34 | POW & LBC, James Cooper | Environmental Organization | Lack of ACOE evaluating, properly and independently, the contractor prepared environmental assessment. Sec. 1506.5(b) of NEPA allows agencies to authorize preparation of environmental assessments (EIS) by applicants. Yet, the agency (ACE) must still evaluate independently the environmental issues and take responsibility of the environmental assessment. Further, to ensure that environmental effects of a proposed action are fairly assessed, the probability of the mitigation measures being implemented must also be discussed. The probability of all mitigation measures being implemented Was NOT addressed in the CFPD DAEIS? Likewise, If there are gaps relevant information or scientific uncertainty- relating to an agencys evaluation of significant adverse impacts on the human environment, an agency MUST make clear that such information is lacking or that the uncertainty exists. At a minimum, NEPA requires that all Impact Environmental Statements (EISs) contain information to alert the public to all known possible environmental effects of an agency action. By not including all 6-Known Phosphate Mines and by not including the requisite full Cumulative Impacts analysis it would appear that at present CFPD DAEIS is fatally flawed the ACOE has professionally failed to meet their mandated NEPA responsibilities. | Included in summary response above. |
| **CUMUL-2** | | | **These comments address the time period over which cumulative impacts were considered, including legacy issues from past mining activities.** | **The cumulative impact analysis is explained in Chapter 4. The analysis considers all past, present, and reasonably foreseeable actions, including past (previous and ongoing activities, including the existing mines), present (the four current actions - Desoto, Ona, Wingate East, and South Pasture Extension), and reasonably foreseeable (Pine Level/Keys Tract and Pioneer Tract) actions related to phosphate mining. The temporal scope of the cumulative impact analysis is from 1975 until 2060. Actions prior to 1975 are taken into account as part of the characterization of the current conditions, in accordance with CEQ guidance.** |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000371-13 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The draft AEIS seems to be lacking in any evaluation of historic cumulative impacts of past mining activities and how new activities would "add" to existing impacts resulting from historic mining. | Included in summary response above. |
| 000000542-4 | Percy Angelo | Private Citizen | While our comments are provided in more detail, with support, below, the overall problem with the DAEIS is its failure to address the cumulative impacts of the proposed mining plus past and current mining and its failure to acknowledge or consider the extensive data showing mining impacts to groundwater, surface water, water quality, air quality, local climate and public health. | Included in summary response above. |
| 000000542-20 | Percy Angelo | Private Citizen | As discussed below, there is no single map in the DAEIS which clearly identifies past, present and future proposed mining in relation to the impacted rivers.A glance at the land use map at 3-139, however, begins to demonstrate the nature of the problem. The large magenta blob in the northern 3/5 of the CFPD is the already mined land. The yellow north of that is urban, built up. Everything to the south is essentially wetlands and agriculture. | Included in summary response above. |
| **CUMUL-3** | | | **There were a number of commenters that felt that the cumulative impacts discussion in general was not sufficient and did not adequately comply with the regulatory requirement for consideration of cumulative impacts. Other commenters were concerned that all of the mines had not been included in the cumulative impacts analysis and that the AEIS had not adequately considered the long-term and short-term effects of these mines. Some commenters felt that the cumulative impacts did not consider overlapping operations and that the starting point should be the land prior to any past mining activities. Similar impacts from others suggested that impacts prior to 1975 had not been considered. Other commenters were concerned that the CHNEP had not been considered adequately as part of the analysis.** | **The cumulative impact analysis is explained in Chapter 4. The analysis considers all past, present, and reasonably foreseeable actions, including past (previous and ongoing activities, including the existing mines), present (the four current actions - Desoto, Ona, Wingate East, and South Pasture Extension), and reasonably foreseeable (Pine Level/Keys Tract and Pioneer) actions related to phosphate mining. The temporal scope of the cumulative impact analysis is from 1975 until 2060. Actions prior to 1975 are taken into account as part of the characterization of the current conditions, in accordance with CEQ guidance.** |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000198-1 | Clarke Keller | Private Citizen | MR. KELLER: I would suggest that the Corps of Engineers go back to NEPA and try to understand the language which directs them to perform a past, present and future impact study. These are not affects. They've changed the language, but these are impacts. Cumulative impacts. They've ignored that. Health issues. They've ignored that. On offsite, they haven't really looked at the estuary to harbor. I think this is a regional impact study. It doesn't even come close to the threshold of an areawide impact study. So they take that off the list and then they don't add it again, it's a double whammy to the cumulative impacts. And so like I said, this is why. You can strap this to a rocket. It wouldn't fly. As a taxpayer, I'm really ticked off about it. I know they're not going to read it. I 'm going to get sued anyway by the environmental group. That will get them reading it. | Included in summary response above. |
| 000000205-1 | Protect Our Watersheds, Inc., Helen Jelks King, O.D. | Environmental Organization | Dear Colonel Dodd:Our group has been actively involved in the public input process for the upcoming Areawide Environmental Impact Statement. We want to ensure the best possible protections for our water and our environmental systems during and after mining. This document only analyzes 4 future mines totaling 62, acres, yet we are aware of an additional 6 mines totaling over 6, acres of future mining in the Bone Valley. Since this document will be the only comprehensive " big picture" look ahead and proper EPA rules for cumulative impacts for the next 5 years of mining, we feel it is imperative that this becomes the best possible product. | Included in summary comment above. |
| 000000272-52 | Sarasota County, FL, Christine Robinson | County Government | The Draft AEIS did not include an analysis of the historic mining impacts from the 194's to the 197's. A greater analysis of the pre-1975 mining impacts, similar to the one prepared for the Peace River (PBS&J, 27), should had been conducted for all watersheds in the CFPD. | Included in summary comment above. |
| 000000272-53 | Sarasota County, FL, Christine Robinson | County Government | Particularly, the hydrology and wetland impacts, so a clear and realistic forecast of the total cumulative impacts to the region of the proposed mines, in relation to all past mining. | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000272-112 | Sarasota County, FL, Christine Robinson | County Government | The Draft AEIS does not properly take into account its concerns about cumulative actions. Cumulative actions are defined as those actions which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." 40 C.F.R. 1508.25(a)(2) (2012). Although this regulation requires that "cumulative actions" be considered together in a single EIS, and "cumulative actions" consist only of "proposed actions," this does not negate the requirement of 40 C.F.R. 1508.7 that the Corps consider cumulative impacts of the proposed actions which supplement or aggravate the impacts of past, present, and reasonably foreseeable actions. Oregon Natural Resources Council v. Marsh, 832 F.2d 1489, 1497-98 (9th Cir. 1987), rev'd on other grounds, 490 U.S. 360 (1989). | Included in summary response above. |
| 000000272-118 | Sarasota County, FL, Christine Robinson | County Government | The courts have struggled with a definitive approach as to how to apply the cumulative action and cumulative impact requirements in the CEQ regulations after Kleppe. See, generally. Thatcher, Terence L., Understanding Interdependence in the Natural Environment: Some Thoughts on Cumulative Impact Assessment Under the National Environmental Policy Act, 20 Envtl. L. 611 (1990). In the instant case, the corps should reject any arguments that the only reasonably foreseeable future actions are those in which the industry actually has an application pending with the Corps, and that those areas should not be part of any cumulative impact analysis done by the Corps. These arguments are an incorrect interpretation of the regulations and Kleppe. Accordingly, the Corps should consider both the cumulative actions of any proposed actions, and the cumulative impacts from projects for are reasonably foreseeable, even when there are no mining applications pending. | Included in summary response above. |
| 000000275-10 | Helen King | Private Citizen | 4.12 The AEIS fails to show cumulative impacts. For instance, there is no chart or discussion to determine which mines will have overlapping or cumulative years of operation. Cumulative impacts should incorporate all past, present, and foreseeable future mining. The starting point should be the land in its natural state, not the state of past mining, where damage has already occurred. | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000280-46 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.12 Cumulative Impacts P. 4-169 Although the potential cumulative impacts of the four proposed projects, and in some cases the potential future projects are assessed, the subject project are only the latest to be proposed in the continuum of phosphate mine-related activities on the CFPD. Rather than use existing conditions, which include impacts from on-going mining, as a baseline from which to estimate new impacts (such as stream flow reductions), the effects of on-going and proposed mining activities should be examined as a whole to identify the true cumulative effect of mining in the CFPD. | Included in summary response above. |
| 000000368-2 | Kevin P Wayne | Private Citizen | As a citizen of Florida and the United States of America, it is important to me to have a full understanding of mining impacts on the environment. This should include multiple detailed impacts upon our surface water and wetlands from mining and not only the "short term"; but also the long term impacts for-seen. | Included in summary response above. |
| 000000387-4 | Mary Olsson | Private Citizen | In particular, my concern is that the study uses a narrow scope of review for the cumulative impact results of the mining operations in the area. | Included in summary response above. |
| 000000542-23 | Percy Angelo | Private Citizen | There is no discussion of the cumulative consequences of such widespread mining including the consequence of putting three new mines in the Horse Creek basin, destroying one of the few remaining environmentally significant tributaries to the Peace River. | Included in summary response above. |
| 000000542-55 | Percy Angelo | Private Citizen | Further, by and large existing mining was approved without an EIS (the 1976 study has clearly been out of date for decades). Existing mining was never properly reviewed for environmental impacts and basing further mining on the assumption that the devastation caused by existing mining is OK is an insupportable assumption. The CEQ regulations state that an EIS shall serve as the means of assessing the impact of proposed actions, rather than justifying decisions already made. 4 CFR 152.2 (g). An EIS requires consideration of cumulative impacts, which means past impacts PLUS current impacts, PLUS reasonably foreseeable future impacts. 4 CFR 158. The baseline for the AEIS assessment, and the no action alternative, must be the state after current mining is reclaimed, not the state resulting from the damage which has | Included in summary comment above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | already occurred. | |
| 000000542-181 | Percy Angelo | Private Citizen | We have participated actively and constructively in your process, supplying much technical data and information and numerous comments which have been carefully considered by the organizations which we represent. We have sought out input from the public and from experts to insure that our comments are as informed as possible. We know that the issues we present to you in these comments are issues which many believe to be important, and, for the reasons given above and in our prior submissions, we ask that you broaden your analysis to consider the true cumulative impacts of a mining program which will impact well over a million acres of Central Florida for easily the next 100 years. | Included in summary response above. |
| **CUMUL-4** | | | **Some commenters were concerned that by not including infill parcels as part of the future impacts that the Draft AEIS did not adequately capture all of the future impacts from mining.** | **Chapters 1 and 4, and Appendix B, explain how infill parcels were considered in the Final AEIS.** |
| 000000199-14 | James Cooper | Private Citizen | There also are some mines that they mentioned in August of 21, this letter I have signed by the head of the Army Corps for Florida, Col. Pantano, that lists 11 applications for jurisdictional mining in the Central Florida Phosphate District.And I dont know some of these mines, I dont even know where they are anymore because Ive lost the bubble. Im assuming theyre either mining or they didn't mine them in the group of 11 that I've given you, these probably should be included too.One is called the Lambe Tract, SAJ, 25. 99l - MEP.Another one is t his G & D Farms SAJ 1995 794 ACR.This one here, the Four Corners one, and then I think t here's Texaco Tract, they've renamed the Wingate.Thats another thing, these guys are masters at mixing things up, in other words, what they try to do is -- this is what they take out a permit for, but then when t hey go to put it in the EIS, they call it Wingate, when in fact it was Texaco tract. How can you keep up with this stuff? Its impossible.So anyway, that's what I'm saying to you. They know about this because this is in a letter signed by the guy that runs the Corps.It defies logic, okay?Also within this statement they really know they're violating impact because on page 2 of this letter it says: For the above stated reasons, an Area wide EIS should be | Included in summary comment above. |

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| | | | prepared to evaluate the cumulative impacts of the proposed phosphate mines and mine expansions in the Central Florida Phosphate District.So up front theyre saying that's what theyre supposed to do. So they simply need to do what they say theyre going to do.In this same document, this is why I told you, they say that they dont consider the mines that dont begin before 228.But, yes, they have mines that will last well past that 228. You can't have it both ways. If you take a mine out for 3, 45 years, you have to have the other mines in there to. If you don't, then you dont have a consistent valid product. In other words, its not consistent and we need some consistency. | |
| 000000349-9 | Robert Fellman | Private Citizen | Doc Ref = Executive Summary, Section E5.1 Page = 5 Line = 10 through 13 Issue: "However, for the evaluations under this AEIS, the simplifying assumption applied was that the No Action Alternative meant no new mining projects of the scale currently proposed by the Applicants would be approved during the planning horizon analyzed (through 13 2060)." Inconsistency with testimony presented before Manatee County Commissioners. Comment: In March 2012, Mosaic was given approval by the Manatee County Commissioners to mine an approximately 661 acre extension to the Wingate Mine. According to testimony presented at the Jan 12, 2012 hearing before the Manatee County Planning Committee, Mosaic claimed that (roughly) 661 acres would be mined in the extension. Since this is new production not likely to be mined until 2014, this production should be included in the production baseline value for the No Action Alternative that is described in the Executive Summary. The production for the Wingate extension (ie the 661 acres approved for mining in March 2012) is presented in Appendix F. Therefore, the executive summary needs to be made consistent with Appendix F. | Included in summary response above. |
| 000000369-4 | Manatee County, FL, Ed Hunzeker | County Government | 2. Section 1.3, Page 1-24, Lines 22-35: In-fill parcels may be smaller in size (typically 300 or larger acres) but permitting these areas may have unattended adverse consequences which may be significant in the local context and therefore should be evaluated in the AEIS cumulative impact study. Consequences of these "in-fill" parcels include extending the life of mine, delays between mining and reclamation, | Included in summary response above. |

## Cumulative Impacts

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| | | | additional lands temporarily removed from the watershed, etc. These consequences may have cumulative impacts which should be considered in this study. Any of the identified offsite alternatives adjacent to the four proposed actions could potentially become an "in-fill" parcel. Therefore, Manatee County recommends analyzing the four proposed actions with reasonably foreseeable "in-fill" parcels as an alternative. The history of Four Corners Mine "in-fill" parcels is well known and could be used to make appropriate assumptions. | |
| **CUMUL-5** | | | **A number of comments related to the perceived limit on the number of mines evaluated under cumulative impacts and the related timeframe that should have been covered beyond the year 2060. The perception of these commenters is that extended mining will occur that will impact physical, natural and other environmental resources. Several commenters noted that the Draft AEIS does not considered all six known future phosphate mines and that the potential impact would be significant to the Charlotte Harbor. There also is a request for better evaluation of seasonal freshwater flows that may affect watersheds that originate in the CFPD. Some commenters assumed that mining would be in included over all of the CFPD and that the geographic scope was too limited. As result commenters felt like wetlands loss in restored mining could not be accounted for as part of the cumulative impacts.** | **In accordance with applicable regulations and guidelines, the analyses of direct and indirect effects in Chapter 4 of the Final AEIS considers the four proposed actions (the Applicants' Preferred Alternatives) and four offsite alternatives identified through the screening process described in Chapter 2 and Appendix B. The cumulative impacts analysis in Chapter 4 considers the impact of all past, present, and reasonably foreseeable actions, including the four proposed actions and two reasonably foreseeable mines. A cumulative impact assessment, as defined by CEQ guidance, is not intended to evaluate future impacts that are not reasonaby foreseeable. Consideration has been given in the AEIS for currently operating mines as described in Chapters 1 and 4 of the Final AEIS. Chapter 3, 4 and 5 more clearly describe the changes in mining, mitigation, and reclamation/restoration requirements, methods, and practices that, over time, have decreased impacts.** |
| 000000199-11 | James Cooper | Private Citizen | Okay. They have only listed four mines in this area impact statement. I have a huge problem with that. Okay? They don't consider all of the future mines that they know theyre going to mine, based upon permit applications the Army Corps already has. So if the Corps has the permit, knows about the permit, and they have the map in their records, we should hear about that too. You heard Mr. Fellows say foreseeable future. I think if you've got it in your possession, thats foreseeable. But theyre not including them, theyre limiting it to four. I think I recall that at the last one of these hearings, they logically said were only going out 20 years. Thats not the case because in one of the mine permits, for example, they say the mine is going to last 45 years. Forty- five years is not | Included in summary response above. |

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| | | | 20 years.I looked at one of their surface water studies, they show Pine Level is going up to 2074. So thats more than 60 years. So there's something that doesnt pass the smell test here. You know, it just doesnt smell right.So my point is, if you're going to go and look at the past, present and reasonable foreseeable future, they should at least go back to two thousand and look at the mines they know they have permitted, because theyre out there, right now. And I'll give you a list of some of those mines: Mosaic mines would be Hooker's Prairie, Four Corners, Hopewell, Waltman, Wingate, Southport Meade. The regular Southport Meade they just closed down. And the South Pasture that they've been running, and those are about to operate, which aren't listed in the EIS, such as the Southport Meade extension, which is over 10,000 acres, in the draft AEIS. So thats like nine mines they dont mention.So really it should be a 13 mine study, at least. He mentioned some mines in the future theyre going to study; he mentioned Pioneer and Pioneer East. If they know about them, they should consider them as alternatives, then why are they not being studied right now?This is a very simplistic idea. What you do is you take all of these mines and you have a massive spread sheet, and you have a timing - t his one is going to start here and this is going to finish here. Line them all up. Okay? How much of the mine is in the same time frame, do the impact on all the major rivers, if they do, and what are the impacts? Add it all up and if you have 2 percent here, 7 percent, 12 percent, at the end of the day you may have 30 or 40 percent that are impacted when all the mines are working. But you're not going to know it if you dont lay it out. And this is what's happening because this is supposed to be a cumulative effect, not a site specific. So thats my problem in the basic formation.So I don't think they're addressing cumulative impacts of the permitted mines operating, or future mines which they know are going to be operating. | |
| 000000272-113 | Sarasota County, FL, Christine Robinson | County Government | Section 4.12.1.4 of the Draft AEIS does not take into proper account all reasonably foreseeable actions. Rather, it only considers the cumulative impacts of the proposed actions, i.e., the four mine applications (DeSoto, Ona, South Pasture Extension, and Wingate East) plus two foreseeable future | Included in summary comment above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | mine projects (Pine Level and Pioneer). | |
| 000000371-12 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The EIS (except for one alternative) doesn't address any future mining after the current pending permit applications. The "Area Wide" EIS therefore is limited in scope to evaluating only the impacts of existing pending permits, and not future potential mining activities. While the AEIS identifies the 4 (alternatives 2-5) current permit applications, 3 more large mines in the potential future (alternatives 6-8), and then 18 more possible options (alternatives 9-25), only four are actually evaluated relative to impacts and economic benefits. Does the ACOE plan to continually update the document in light of potentially future permit applications? | Included in summary response above. |
| 000000542-37 | Percy Angelo | Private Citizen | And yet there is nowhere in the AEIS where these devastating consequences are pictured, calculated and discussed. There is not even a chart where the reader can determine which mines will have overlapping, and thus cumulative, years of operation (4-173 does not include all the years of impact. Ona extends to 2065, with reclamation. Pioneer and Pine Level, extend into the 2080s, even into the 2090s, including reclamation). This failure to discuss cumulative impacts, over space or over time, is a clear violation of the function of an AEIS. | Included in summary response above. |
| 000000542-38 | Percy Angelo | Private Citizen | When one recognizes that mining in the upper Peace River has contributed to a 20-50 foot drop in the Floridan Aquifer and the drying up of the river and important springs, the prospect that we are about to do 50% more mining in the lower part of the river is dismaying, yet this is never discussed, and, as described above, it requires some effort even to get the data. This is the consequence of a purpose and need statement which says that the Corps purpose is to extract phosphate ore from the CFPD. Apparently that really means the entire CFPD, or at least as much as the mining companies can get their hands on. There is no question that the statute and regulations require a discussion of the cumulative impacts of mining. As addressed later in this section, the DAEIS substantially fails to provide this discussion. The failure to even include a map of all mining areas is strong evidence of this failure. | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000542-45 | Percy Angelo | Private Citizen | The AEIS is improperly limited in geographic scope- We have previously noted to you that your AEIS scope, and your DAEIS, are substantially insufficient in that they appear to include only the property within the CFPD boundaries and therefore exclude the downstream counties, watersheds and estuaries most impacted by mining. These include Charlotte, Sarasota and Lee Counties, the Peace and Myakka Rivers and the Charlotte Harbor estuary, as well as the counties and river systems bordering the CFPD to the west, the Alafia, the Manatee, and the Little Manatee, and Tampa Bay. In discussions you have assured officials in neighboring and downstream counties that your analysis will include them. You have failed to do so. | Included in summary response above. |
| 000000542-48 | Percy Angelo | Private Citizen | C. DAEIS Improperly Limits the Scope of the AEIS to 2060 and Never Considers the Consequences of the Extended Environmental Disruption Which is to Come The DAEIS decides that the temporal scope of the study should end in 2060, because, it claims, 2060 represents the end of the mine life, including reclamation, of the four specific projects being considered. 4-171. The DAEIS concedes that this 2060 date overlaps with the dates of operation of the two specific mine alternatives. While the DAEIS is wrong based on its own assumptions (Ona reclamation extends to 2065 according to 1-17), it is also clear that the so-called mine alternatives are in fact simply future mines. And those mines extend well beyond 2060, into 2090 and beyond (Pioneer mine reclamation appears to extend to at least 2090-30 years after Ona with 10 years reclamation. 4-81). The chart above, Ex. 1, illustrates vividly that 2060 is not the end of impacts. | Included in summary response above. |
| 000000542-185 | Percy Angelo | Private Citizen | The AEIS is improperly limited in geographic scope- Ex. 3, Scoping Comments and Resume of Brian Winchester C. DAEIS Improperly Limits the Scope of the AEIS to 2060 and Never Considers the Consequences of the Extended Environmental Disruption Which is to Come p.8 | Included in summary response above. |
| 000000550-13 | POW & LBC, James Cooper | Environmental Organization | Per NEPA, This DAEIS must state all Cumulative Impacts, yet it does NOT fully consider a 5 year old Regional Phosphate Assessment (FDEP 2007 Peace River CIS) & many previously submitted in April 2011: Charlotte Harbor NEP studies. The DAEIS also fails this NEPA definition by failing to consider: ALL 6-new (Not yet CWA permitted) Phosphate Mines, which are | Included in summary response above. |

## Cumulative Impacts

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | known to be planned, which are clearly collectively significant actions that are reasonably foreseeable & taking place over a period of time. (as previously outlined). | |
| 000000550-31 | POW & LBC, James Cooper | Environmental Organization | Inclusion of the Cumulative Impacts of all 6 Mines is supported by NEPA: NEPA documents should consider a broad range of activities & patterns of environmental degradation that are occurring in the vicinity of the project. Actions relating to the project would include: - Probability of actions (all similar mines in same area) affecting the same environmental system, especially systems that are susceptible to development pressures (like streams & wetlands). - Likelihood that the project will lead to a wide range of effects, or a number of associated projects. The effects of other projects are similar to those of the project under review. - All 6 phosphate mines are clearly similar & any all future CFPD mines planned should also be included if they will require CWA permits. - This DAEIS Fails to note or consider the threshold beyond which Cumulative effects significantly degrade the regional ecosystem. Yet, NEPA has an easy solution to the difficult question: How to determine The threshold beyond which cumulative effects significantly degrade a resource, ecosystem, or human community. Quote: Without a definite threshold, the NEPA practitioner should compare: the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant. These desired conditions can best be defined by the cooperative efforts of agency officials, project proponents, environmental analysts, non-governmental organizations, and the public through the NEPA process. (1999-EPA document In Notebook). The Key Question the CFPD DAEIS Fails to Answer: Do the cumulative effects of all 6 known and planned future phosphate mines on the regional ecosystem and the Charlotte Harbor watershed - match & comply with stated community, regional, state & federal goals As is presently stated in this DAEIS? The ANSWER: NO! | Included in summary response above. |

## Cumulative Impacts

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| **CUMUL-6** | | | **There were a number of commenters requesting maps that would provide more detailed information on specific aspects of potential cumulative impacts of both past present and future mining activities. These include a request for a map that would show the extent of mining on a single chart with dates of overlapping operations and maps that show areas to be considered for future mining. Some of these comments related to maps of gypsum stacks as well.** | **Additional information has been provided in the Final AEIS in Chapter 4 to more clearly define impacts related to current and former mine areas. The maps included as part of the alternatives (Appendix B) and other analyses (Appendix C) follow NEPA regulations to determine potential alternatives to the Applicants' Preferred Alternatives.** |
| 000000542-30 | Percy Angelo | Private Citizen | B. The AEIS Does Not Represent a Cumulative Analysis The Corps never supplies a single map on which the extent of mining can be discerned or a single chart on which the dates of overlapping mine operation can be discerned or any map showing the relationship of the mines in question to the impacted rivers.- | Included in summary response above. |
| 000000542-31 | Percy Angelo | Private Citizen | While the purpose and need statement is designed to allow mining of almost every deposit of phosphate within the CFPD, the maps supplied in the AEIS conceal this impact. | Included in summary response above. |
| 000000542-32 | Percy Angelo | Private Citizen | In order to see the total area covered by mining in the past, or anticipated for mining in the future, one must assemble maps at 1-18 (Historical mining and 4 proposed mines covered by the AEIS) and 1-25 (Potential additional mines at Pine Level/Keys and Pioneer Tract) and 4-175, 177 (existing mandatory and nonmandatory). If you try to look at these maps together it appears that just about the entire CFPD is anticipated for mining. The areas left out are either state parks/Florida Forever parcels, or urban areas, or areas proposed for mining as alternatives in the AEIS. | Included in summary response above. |
| 000000542-170 | Percy Angelo | Private Citizen | In our scoping comments we identified several areas in which existing data is inadequate and further data gathering is necessary. They included: -There should be an updated inventory of mined land and land to be mined. The present status of formerly mined land should be identified, its usage, including usage for residences, and condition. Maps of mined areas with all long term physical mining features such as CSAs, gypstacks, processing plants, mined lakes, etc., should be prepared. This inventory should include nonmandatory as well as mandatory lands. | Included in summary response above. |

## Cumulative Impacts

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| **CUMUL-7** | | | **These comments refer primarily to the perceived inadequate scope of the AEIS by avoiding discussion of phosphogypsum stacks and related waste disposal or other similar impacts and concerned that these were not included in the AEIS. Included in these comments also are references to radiation and toxicity of clay settling areas and other perceived health effects associated with transport of the ore and gyp stacks. There was also concern that air quality to include dust impacts had not been adequately considered. Included in these comments also is a concern that there would be additional electricity demand as result of the proposed projects.** | **Section 1.3 and the waste management section in Chapter 4 of the Final AEIS address how the direct and indirect effects of phosphogypsum stacks are beyond the scope of this AEIS.** |
| 000000192-3 | ManaSota - 88, Glenn Compton | Environmental Organization | ManaSota-88 is mainly concerned with the limited scope of the DAEIS study. Phosphate mining, phosphogypsum waste disposal, and the operation of a fertilizer manufacturing plant must be linked for cumulative impact analysis. Unfortunately the DAEIS is not sufficient in scope to adequateiy address all the environmental issues of the Proposed Action and permit reviews. Because of the limited scope of the DAEIS, its usefulness in evaluating the social, economic and environmental impacts the phosphate industry is having in Florida is also limited.The DAEIS does not begin to address the effects of highly radioactive and toxic clay settling areas, the health effects associated with the transportation of phosphate ore and gypsum, the public health and environmental impacts associated with phosphogypsum waste disposal, reagents used in mining and processing ores, and other phosphate wastes. | Included in summary response above. |
| 000000272-49 | Sarasota County, FL, Christine Robinson | County Government | The DRAFT AEIS does not consider the past disposition of phosphogypsum or continued phosphogypsum stacking resulting from the proposed and future mines as major cumulative effect of mining. | Included in summary response above. |
| 000000348-13 | Barbara Angelucci | Private Citizen | 4.12 - 4-163Included in the AEIS must be the chemical plants, closed as well as open and phosphogypsum stacks, closed as well as open. The reason for this is that buried within the FDEP Oculus website are EPA Consent Orders against Mosaic facilities listed below regarding discharge of waste waters which are cumulative impacts which the AEIS is all about. The importance of looking at beneficiation/chemical plants and gypstacks is illustrated with the Sweet Creek Chemical | Included in summary response above. |

## Cumulative Impacts

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| | | | Phosphate Plant in November 2009. A sinkhole 50 feet across under a gypstack was leaking into the aquifer for 15 months. It was necessary to drill horizontally and took 2 months to get pictures of leak. Piney Point is another example which keeps on giving leaks, etc. While the ACOE does not regulate the plants or gypstacks, it should be in the AEIS as it is a continuous cumulative impact. Some closed chemical/beneficiation plants and gyp stacks are still using water for dilution of waste water and the intention is to do that for years to come, e.g., 55 year contract with FDEP/State for Mulberry Plant. The Nichols and Greenbay plants have 20 years each to discharge. CF Industries had a Consent Order and fine from the EPA on discharges from their Zephyr Hills operating plant with closed gypstack. These situations have long-term impacts on ground and surface water and must be included in the AEIS study. FDEP Oculus website EPA Consent Orders on Mosaic Facility ID Numbers: New Wales FLD084717545Green Bay FLD043055003South Pierce FLD092980150Bartow Concentrates FLD003952033 (http://dwmedms.dep.state.fl.us/Oculus/servlet/login?action=login) The FDEP is responsible for bringing this to the attention of the ACOE and requesting that discharges, etc. be a part of the AEIS. The impacts are cumulative and continuous. No study can be done without looking at these issues. | |
| 000000542-125 | Percy Angelo | Private Citizen | N. Exclusion of Chemical Plants and Gypstacks is Improper. - Objection to exclusion of chemical plants and gypstacks from the analysis- The DAEIS entirely fails to discuss chemical plants and gypstacks, apparently on the grounds that they involve a process subsequent to mining-the conversion of the mined product to fertilizer. See e.g. 4-168. This also is clearly improper. The CEQ regulations require that an EIS include all proposals which are related closely enough to be, in effect, a single action, either geographically, because they occur in the same general area or generically because they include common timing, impacts and subject matter. 40 CFR 1502.4. An EIS must include direct, indirect and cumulative impacts. Direct impacts are those occurring at the same time or place, indirect impacts are later in time or farther removed in distance but are still reasonably foreseeable. The scope of indirect impacts is so broad that it may include growth | Included in summary response above. |

## Cumulative Impacts

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| | | | inducing effects and impacts related to induced changes in land use, population density or growth rate. Cumulative impacts exist when the incremental impacts of the action, when added to past, present and reasonably foreseeable future impacts, regardless of what person or agency takes those actions, are subject to the EIS. 40 CFR 1508. In the case of gypstacks, no imagination is required to understand their intimate connection to mining, their immediate geographical relationship ( they are located throughout mining country with impacts frequently inseparable from mining and beneficiation impacts-see discussion of Kingsford Complex/ThirtyMile Creek TMDL above), their treatment of the same phosphate that is removed from the mine itself and their horrific environmental and socioeconomic impact. The USGS 2010 Minerals Yearbook, the government authority tracking the minerals industry, notes specifically that, All phosphate rock mining companies are vertically integrated, having one or more fertilizer plants, usually located near the mine. Ex. 29 at 56.2 (emphasis supplied). In fact most of the USGS data on production and sales is stated in terms of fertilizer production and sales. There are NO sales of phosphate rock alone in the US, only sales of fertilizer and processed phosphoric acid by the mining companies. Chemical plants and their gypstacks are an integral part of mining. Basic chemistry must be recognized here as well. Phosphate rock is not soluble and cant be taken up by plants. 4-168. The phosphate rock, before processing, is useless. It must be processed to serve its function. No mine would exist were it not for the next step of chemical processing to make an actual product. | |
| 000000542-126 | Percy Angelo | Private Citizen | Mosaic, for example, touts its vertical integration (meaning its processing plant and gypstacks) as one of the reasons it is one of the lowest cost producers in the world. ICIS Chemical Business Magazine, www.icis.com/v2/companies/9146075/mosaic/financial.html, previously provided with the Angelo April 19, 2011 letter. As noted above, SWFWMD also views all of the mining and processing operations as connected. The proposed MegaWUP for Mosaic combines all Mosaic water permits, for mining and processing, into a single permit. Ex. 7. The state also treats the mines, the beneficiation plants and the chemical plants | Included in summary response above. |

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| | | | and gypstacks as a single operation. Gypstacks are built on the formerly mined land, 4-168, in fact they are considered to be a reclamation of that land for industrial use. When the horrific gypstack spill occurred at Piney Point, the state took the money collected from the mining companies as severance taxes, and intended for reclamation of unreclaimed pre-1975 mined sites and spent it on the emergency response for the gypstack, with the full cooperation and assent of the industry and all regulators. No one gave a second thought to the argument that gypstacks and mines were separate and mine money shouldnt be spent on gypstacks. The Ralph Montgomery comments, provided at Ex. 8, similarly point out that the gypstacks will grow as the mines being addressed by the DAEIS proceed, and closure of the gypstacks will lead to difficult downstream water quality impacts as the water removed from the gypstack is discharged. He cites already known orthophosphate problems from current gypstack closures. | |
| 000000542-199 | Percy Angelo | Private Citizen | N. Exclusion of Chemical Plants and Gypstacks is Improper. p. 33 -Objection to exclusion of chemical plants and gypstacks from the analysis- Ex. 29, 2010 Minerals Yearbook, Phosphate Rock, US Geological Survey, http://minerals.usgs.gov/minerals/pubs/commodity/phosphate rock ; 2010 Minerals Yearbook (Advance Release) with tables; Phosphate Rock, Mineral Commodity Summaries, US Geological Survey, January 2012, http://minerals.usgs.gov/minerals/pubs/commodity/phosphate-rock/mcs-2011-phosp.pdf. | Included in summary response above. |
| **CUMUL-8** | | | **Several commenters stated that the cumulative impact analysis was not performed correctly, either based on information, resource categories evaluated, impacts considered, or based on interpretation of CEQ and other federal regulations and guidance.** | **The cumulative impacts analyses described in Chapter 4 of the Final AEIS were conducted in compliance with CEQ and other federal regulations and guidance, including the determination of the action,past, present and reasonably foreseeable actions, and geographic and temporal scopes. The bases for these determinations, and the ways that the USACE considered significance, context, and magnitude of the effects within the various areas of concern, are explained in Chapter 4 of the Final AEIS.** |

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| 000000272-119 | Sarasota County, FL, Christine Robinson | County Government | The Draft AEIS has already identified Alternatives where mining might take place. Thus, the Final AEIS should determine the cumulative impact associated with the four mines (DeSoto, Ona, South Pasture Extension, and Wingate East) plus the two foreseeable future mine project (Pine Level and Pioneer), and the Alternatives. | Included in summary response above. |
| 000000273-1 | Diane Desenberg | Private Citizen | Several years ago, the EPA said that what was needed was an analysis of the cumulative impact of current and future mines for the entire watershed, including downstream counties. Several years and over 1,000 pages later, the Army Corps did not examine the cumulative impacts within the region as suggested by the EPA, but rather promoted some environmental benefits of mining activities. | Included in summary response above. |
| 000000281-32 | Sandra Ripberger | Private Citizen | Throughout the AEIS, the evidence for the conclusions that the cumulative effects of the four new mines will be small is not credible because the study relies on industry modeling and documents provided by the industry. When problems such as pollution, drawdown or salinity are mentioned, other causes such as agriculture or rainfall levels are targeted. We find the AEIS draft of little value in planning for a healthy environment in central Florida. | Included in summary response above. |
| 000000348-6 | Barbara Angelucci | Private Citizen | The legal definition of an AEIS is that it covers cumulative impacts. The AEIS must start with current studies undertaken while the Draft was being prepared, or have them done, and work backward to capture all cumulative impacts. | Included in summary response above. |
| 000000348-10 | Barbara Angelucci | Private Citizen | 4.6 Water Quality 4-103NEPA is a procedural statute requiring agencies to 1) examine environmental impacts by identifying and evaluating adverse environmental effects of a proposed action and 2) broadly disseminate relevant environmental information for public comment so that the general public may actively participate in the decision-making process. NEPA requires the Corps to consider the direct and indirect effects of its actions, and the cumulative impacts of past, present and reasonably foreseeable future actions on the environment. 40 C.F.R. &&1508.25©. Also, NEPA requires the Corps to use accurate scientific analysis and high quality information in analyzing a proposed action, 40 C.F.R. The Administrative Hearing on Mosaics mega water permit must be heard as part of the Draft AEIS as it pertains to wastewater discharges, | Included in summary response above. |

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| | | | questionable illegal pumping, and leaks from gypstacks which all have past, present and foreseeable future cumulative impacts on the environment. The ACOE must go back in time and then move forward if this AEIS is to be done properly and legally. | |
| 000000373-2 | Audubon Florida, Eric Draper | Environmental Organization | Overall Procedural Concern The AEIS, as anticipated by the Charlotte Harbor National Estuary Program when it recommended such a study, will set the stage for the extent of phosphate mining impacts on wetlands, streams and downstream estuaries for the short, medium, and long term future. Therefore it is important that the final document take into consideration the full range of cumulative impacts of phosphate mining as well as opportunities for improving conditions for wildlife throughout the Central Florida Phosphate District and the watersheds in which it is located. | Included in summary response above. |
| 000000373-3 | Audubon Florida, Eric Draper | Environmental Organization | Cumulative analysis of impacts: The final AEIS should be based on a comprehensive cumulative analysis as the context for modeling impacts of any future expansion of mining. This should involve taking into account the persisting impacts of past and present mining along with those expected from future expansions. | Included in summary response above. |
| 000000388-5 | Beverly Griffiths | Private Citizen | 5) There are too many mines being permitted too close together and too little is understood about the cumulative impacts especially to the Peace River and Horse Creek. | Included in summary response above. |
| 000000542-42 | Percy Angelo | Private Citizen | The DAEIS never provides a cumulative analysis of surface water flow reductions and wetland and other habitat losses though there are indications they will be highly significant- While this will be discussed further in connection with surface water issues below, it is highly troubling that the DAEIS does not contain a discussion of the impacts of surface water flow reductions from the proposed mines, in addition to the existing flow reductions from existing mines. The chart above, also reproduced at Ex. 1, shows the amount of land mined but not reclaimed over the years. The amount peaked in approximately 1995 at 40,000 acres and is expected to decline to about 14,000 acres in about 2018. Then, however, with the proposed new mines it starts to increase again, dramatically, till it reaches over 35,000 acres in 2036. This is significant because this acreage is the capture area of the mines, the area that impounds surface water and prevents it | Included in summary response above. |

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| | | | from entering creeks, streams, rivers and ultimately Charlotte Harbor. (For an explanation of a mining company document in which this is acknowledged as the capture area see Ex.1 and the surface water discussion below). | |
| 000000542-47 | Percy Angelo | Private Citizen | The DAEIS failures to provide a cumulative analysis, to provide any usable set of maps or figures to identify impacts, and to address central and significant issues such as gypstacks, public health impacts, or the economic value of agriculture and natural resources, result in a document which is so inadequate as to preclude meaningful review. See 40 CFR 1502.9. It should be corrected so that the AEIS process can proceed in compliance with law. | Included in summary response above. |
| 000000542-103 | Percy Angelo | Private Citizen | While acknowledging that the amount of unreclaimed land under the new and foreseeable mines will go up substantially to 35,000, almost reaching the 39,000 peak from 1995 (not including nonmandatory unreclaimed lands of tens of thousands of acres), the DAEIS claims that the most direct measure of the past and present effects of mining is the amount of land reclaimed and that the number will eventually drop. 4-190. For all the reasons given in these comments, this bald pronouncement is clearly incorrect. The impacts are demonstrated in the effects on groundwater, the loss of streamflow, the loss of wetland function, the effects on local climate etc., none of which are diminished by the limited reclamation required by the state. The limited amounts of reclamation and the serious delays in accomplishing it are certainly an additional evidence of the impacts of mining which should be considered. | Included in summary response above. |
| 000000542-183 | Percy Angelo | Private Citizen | Ex. 1, DAEIS 4-191, Phosphate Lands Mined and Not Yet Reclaimed. Also provided is a document provided by Mosaic to the Corps in connection with the South Fort Meade extension application, Figure C-117, Total Acreage of Mined Land Not Yet Reclaimed, which describes the mined/unreclaimed acreage as Capture Area. It shows the largest amount in 1993 as between 42,000 and 43,000 acres. 4-191 shows it as 40,000 acres in 1995. A. The Proposed Purpose and Need Statement is Improper p.2 B. The AEIS Does Not Represent a Cumulative Analysis p.4 | Included in summary response above. |

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| 000000542-188 | Percy Angelo | Private Citizen | Ex. 8, Memo from Ralph Montgomery, Atkins Technical Note, Review of Draft AEIS Document, July 11, 2012. Mr. Montgomery was a principal author of the Peace River Cumulative Impact Study. F. The DAEIS Groundwater Evaluation Fails to Address Central Issues. p. 11 -The DAEIS never evaluates the mining impact on the surficial and intermediate aquifers. Ex. 9, Bacchus, Masou, Madden, Jordan and Meng, Geospatial Analysis of Depressional Wetlands near Peace River Watershed Phosphate Mines, Florida, USA, Environmental and Engineering Geoscience, November 2011. Ex. 10, T. Mims Corp., Petition for Hearing on the Approval of Integrated Water Use Permit No. 20011400.025, issued to Mosaic (Mosaic MegaWUP), February 23, 2012, with attached report of Mike Cotter, P.E. Inc. -The DAEIS modeling of the Floridan Aquifer does not address cumulative impacts- -In order to minimize the mining impact the DAEIS assumes that everyone else will use less.- | Included in summary response above. |
| 000000550-12 | POW & LBC, James Cooper | Environmental Organization | What are CUMULATIVE IMPACTS? Why are they important under NEPA and WHY-are they not addressed by the ACOE-per NEOPA Policy in the CPPD DAEIS? Per NEPA ACT 1970: (Sec. 1508.7) Cumulative Impact The Impact on the environment, which results from the incremental impact of the action, when added to other past, present & reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. (Phosphate Mining is a major: significant action) | Included in summary response above. |
| 000000553-1 | Percy Angelo | Private Citizen | The DAEIS does not recognize that the impacts of past mining will get worse under the proposed mine applications.The July 25 comments included a graph from 4-191 of the DAEIS, also attached to these comments, which shows that the mining capture area peaked at 40,000 acres in 1995, is in the course of dropping to under 15,000 acres in about 2018, and then will start to climb again, fairly abruptly, until it almost reaches 35,000 acres in 2029 and exceeds 35,000 acres in 2037. While mining impacts are tapering at the moment, they are about to get much worse, pretty quickly. | Included in summary response above. |

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| 000000553-5 | Percy Angelo | Private Citizen | Despite these imminent impacts it appears that the DAEIS has cut numerous corners in its evaluation, refusing to discuss cumulative impact and glossing over very real issues. We believe this violates NEPA, but it also appears to be a very poor regulatory and business decision. | Included in summary response above. |
| 000000553-9 | Percy Angelo | Private Citizen | Omission of Difficult Issues Such as Gypstacks, Spills and Radiation Throughout the DAEIS the Corps has decided to simply punt the toughest issues, such as gypstack and CSA spills and the increased radiation from gypstacks, CSAs and mined lands. The Corps has defined these issues out of the analysis. | Included in summary comment above. |
| **Individual Comments** | | | | |
| 000000272-11 | Sarasota County, FL, Christine Robinson | County Government | Figure ES-4 depicts a map of the AEIS Alternatives. It appears that about 60-70% of the CFPD in the Myakka Watershed will be mined. The cumulative effects of a large percentage of the Myakka watershed being mined suggests the limited range of the 4 mines being considered for this AEIS may be insufficient to protect the Wild and Scenic Myakka River and the tens of thousands of acres preserved in the Myakka State Park plus lands protected by the SWFWMD and the Sarasota County Environmentally Sensitive Lands Protection Program. | The referenced figure showed potential offsite alternatives to the Applicants' Preferred Alternatives, not proposed mines. The alternative screening process specifically excludes lands not available for mining, including state parks and similar conservation areas. |
| 000000272-114 | Sarasota County, FL, Christine Robinson | County Government | Some of the problems in distinguishing the difference between cumulative actions and cumulative impacts stems from a United States Supreme Court case that was issued three years before the promulgation of the CEQ regulations. In Kleepe v. Sierra Club, 427 U.S. 390 (1976), several environmental organizations sued the Department of the Interior for failing to prepare a regional EIS on coal mining related actions such as coal leases, mining plans, etc. Id. at 396. The Department of the Interior had already completed a programmatic EIS on the entire proposed national coal-leasing program and several site-specific EISs. Id. at 395. | Comment acknowledged. |
| 000000272-115 | Sarasota County, FL, Christine Robinson | County Government | The Kleppe court held that section 12(2)(C) of NEPA did not require a regional EIS in the absence of a proposal for major federal action of regional scope. Id. at 399. In the absence of such a proposal for major federal action, the Court reasoned that there would be no factual predicate for the production of an environmental impact statement of the type envisioned by NEPA. Id. at 42. Further, the Court also reasoned that it has | Comment Acknowledged |

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| | | | not authority to determine a point during the germination process of a potential proposal at which an impact statement should be prepared. Id. at 46. A final EIS is required only at the time that an agency makes a proposal for major federal action. Id. | |
| 000000272-116 | Sarasota County, FL, Christine Robinson | County Government | The court recognized that when several proposals that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental, their environmental impacts must be considered together. Id. at 410. However, the Court also stated that the determination of whether cumulative impacts exist so as to require a comprehensive impact statement is a "task assigned to the special competency of the appropriate agency." Id. at 413-14. Thus, the Court gave with one hand, while taking away with the other. The decision of whether to conduct a programmatic EIS or regional EIS is largely left to the discretion of the agency. Therefore, a party challenging an agency's refusal to prepare a comprehensive EIS (either regional or programmatic) must show that the agency acted arbitrarily in making that determination. Id. at 412. | Comment acknowledged. |
| 000000272-117 | Sarasota County, FL, Christine Robinson | County Government | Some have wrongly interpreted Kleppe to mean that only the cumulative impacts of concrete proposals be considered together in one EIS. Again, the CEQ's regulations were promulgated three years after the Supreme Courts decision in Kleppe. They require a federal agency to analyze the cumulative impacts of a proposed project in conjunction with any other related actions. Specifically, the NEPA regulations define "cumulative impact" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions .... " 40 C.F.R. 1508.7 (2010) (emphasis added). | Comment acknowledged. |
| 000000351-7 | Debra L Highsmith | Private Citizen | The baseline condition for this study is NOT a true baseline. The baseline of 21 simply ordains that all of the damage to the Peace and Myakka Rivers watershed before 21 is water under the bridge. I completely disagree with this approach and recommended a truly cumulative impact study. Cumulative is cumulativepast, present and future...added togetherand easy to understand. This study accomplishes nothing of the sort. There is no Gantt chart of when mining | Consistent with the No Action Alternative, the use of 2010 as a baseline condition represents the cumulative impact of the existing permitted mines and all past mining as discussed in Chapter 4 and in Appendix J. The 2010 year also represents the existing groundwater and surface water conditions against which all alternatives were compared. The 50-year impact horizon (2010 thru 2060) was chosen as a limit for the AEIS based upon available data and projected life of the four |

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| | | | and reclamation stopped and started for each past, current, and proposed mine. There is no statement of what the watershed would look like in a cumulative mining build-out scenario. There is no recognition of decades of damage both pre- and post- regulation regarding reclamation. I expected the baseline condition to reflect pre-mining conditions, not a rolling average that masks a highly disturbed ecosystem. RE: Figure 4-61. Phosphate Lands Mined and Not Yet Reclaimed illustrates that things are about to go from bad to worse. This graph ends in 26; one can see that the capture area/mined and unreclaimed land extend beyond that, into the 29s in fact. This graph clearly illustrates that past damages (at least the damages since 1975) are the key to present damage, and future damage. This graph shows that things are about to get worse for decades to come. | applications. The cumulative impacts section of Chapter 4 provides a figure showing the past, present, proposed, and reasonably foreseeable mines by life cycle of the mine, with information on mines that are closed but not yet reclaimed. The schedule incorporates the mining and reclamation life cycle of a mine, the early phases of a mine when the mine infrastructure (CSAs and utility corridors) is being constructed (years 1 through 10) and the reclamation of the CSAs at the end of mine life. |
| 000000355-1 | Sarah Hollenhorst | Private Citizen | I feel the AEIS draft is not in compliance with the Estuary Protection Act of 1968. As the mine sites fall within the CHNEP boundaries, and the mines will permanently alter and disturb the most importaant fresh water resource to The Peace River, the freswater source to the CHNEP. Horse Creek is that freshwater resource, as are to a lesser extent other creeks which will also be affected or destroyed by the mines. The loss of resources due to mining of upper Horse Creek highlight the essential value of Horse Creek to CHNEP.Coordination has been not impartial. DEP has shown prejudice toward the mining industry as emphasised by programs promoting the Peace River which were in effect promotionary propoganda for Mosaic, and by the hostile attitude of representatives of DEP toward public questioning of the wisdom of mining within the Peace River Watershed, and by declaring Horse Creek only an intermittant stream during a period of drought, underscoring its value to the Peace River and estuary freshwater supply. | Comment acknowledged. Chapter 4 of the Final AEIS includes discussion of the potential direct, indirect, and cumulative impacts of mining on Horse Creek, the Peace River, and Charlotte Harbor. |
| 000000369-13 | Manatee County, FL, Ed Hunzeker | County Government | 2. Section 3.2, Page 3-11: The draft AEIS states that "existing clay settling areas..." would support mine extensions at existing mines like Wingate Creek. This is not true since historically the CSAs were designed to hold the clays for the existing, permitted mine only. In fact, Mosaic's Wingate East Application No. 29-3221(IP-ACR), Section 3.2.2.2, states that "Mosaic proposes to construct two CSAs (WE-1 and WE-2) on | The mine extensions, e.g., Wingate East and South Pasture Extension, do not need an initial CSA and a new beneficiation plant, but use the beneficiation plant, water capture system, and utility corridors of an existing mine. This reduces the infrastructure impact and reduces the reclamation time frame for the total proposed mine acres. Additional CSAs are necessary for the mine extensions based on the overall |

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| | | | Wingate East...). An appropriate cumulative impact of these CSAs should be performed. Also, due to the limited post-reclamation use of CSAs, Manatee County requires only equivalent clays produced in Manatee County to be stored in the County. Other counties may have-similar requirements. An accurate clay balance should be performed as requested in our scoping letter (Attached). | tonnage of clays predicted to be produced in the beneficiation plant. The clay production is estimated from the prospect data and the needed volume of CSAs is based on the clay production and consolidation modeling required for each new mine or mine extension during the development and approval of the conceptual reclamation plan (CRP) for the mine. Cumulative impacts associated with the CSAs are described in Chapter 4 as part of the cumulative impacts assessment for the Applicants' Preferred Alternatives and Reasonably Foreseeable Mines. |
| 000000369-38 | Manatee County, FL, Ed Hunzeker | County Government | The AEIS should evaluate the cumulative effects of clay settling areas to surface waters, economics, public health (radiation effects), aesthetics, and wildlife. | These aspects of CSA impacts are addressed in Chapter 4 as part of the cumulative impacts assessment for the Applicants' Preferred Alternatives and Reasonably Foreseeable Mines. |
| 000000369-40 | Manatee County, FL, Ed Hunzeker | County Government | 11. Section 4.12.2: A purely wetland cumulative impact analysis to review functional loss and reclamation values is necessary. There has only been one study to evaluate the functional success of wetland reclamation (FDEP 2009, Evaluation of Reclaimed and Released Mining Parcels, presented at Peace River Basin Resource Management September 30, 2009 meeting). In this limited study, it was reported that the average UMAM score for reclaimed wetlands was 0.56 (average score of 0.66 if considering only wetlands released after 2005). This study did not address the likelihood of wetland mitigation reaching success or the temporal loss of wetlands. Furthermore, the FDEP reclaimed mining parcels study reviewed reclaimed wetlands at FLUCCS Level II. This is an inadequate analysis of wetland reclamation due to the reduced complexity of habitats at Level II. A recent study presented at the 2012 INTECOL Conference by Jason Lauritsen and Tim Burham3 highlights the importance of identifying and mitigating specific and important wetland functions of wet prairies. It is critical to reclaim and mitigate to a Level III FLUCCS in order to avoid any unattended consequences of losses of specific wetland functions. | NEPA requires that a cumulative impact analysis consider a wide range of impacts, and not focus on only one subject such as wetlands. Wetlands are part of the cumulative impact analysis for the Final AEIS discussed in Chapter 4. The individual projects will be required to demonstrate compliance with the 2008 Compensatory Mitigation Rule, including consideration of replacement of lost wetland functions, and type-for-type replacement of impacted wetlands. |
| 000000373-1 | Audubon Florida, Eric Draper | Environmental Organization | As the Draft AEIS demonstrates, phosphate mining is one of several land uses that impact wildlife habitat. The other principal uses are agriculture and development to support population growth. The Draft AEIS was reviewed with the expectation that phosphate mining had the greatest impact, but the draft appeared to also identify major impacts from | The scope of the AEIS is described in Section 1.3 of Chapter 1. While other existing and reasonably foreseeable non-mining actions are considered in the cumulative impacts, NEPA compliance of other federal actions that may spur agriculture and development is beyond the scope of the AEIS. |

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| | | | other human activities and suggests that much of the impact to water resources is related to agriculture. Nevertheless, phosphate mining does have a major impact on the environment, so the approach in permitting (to the greatest degree possible) should be to limit ecological impacts and to provide net benefits that improve habitat impacted by other land use activities and by previous mining. The Draft AEIS discusses the major land use impacts on the watershed - population growth, agriculture and mining, but limits its focus to mining impacts. Other federally supported, funded and permitted projects that spur agriculture and development should also be considered in a study of cumulative impacts. Consideration should be given and comparison made in the review of the impacts of the three types land uses and of the degree to which they may provide net compensatory benefits. Audubon favors restricting development in the CFPD which impacts water and wildlife while providing no compensatory benefit. | |
| 000000371-3 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Realistically, the document should probably be re-titled something relative to "new" proposed and potential phosphate mining in the Central Florida Phosphate District since it does not address historic cumulative impacts that are still ongoing today. It also dismisses and/or ignores any impacts resulting from phosphate mining that wouldn't require 404 U.S. Army Corps of Engineers (ACOE) dredge and fill permitting or wetland permitting (although it seems unlikely that any large scale mining in uplands only would be feasible). | Comment acknowledged. The AEIS does include historic cumulative impacts as well as those that are current or reasonably foreseeable in the future in Chapter 4. Mining that would not require a permit from the USACE under Section 404 is described in the AEIS as the conceptual No Action Alternative. Such mining would be outside of the USACE's regulatory authority. |
| 000000373-11 | Audubon Florida, Eric Draper | Environmental Organization | As noted above, Audubon is especially concerned about the impact of development related to population growth in the CFPD area. In other ecologically valuable areas such as Lee and Collier Counties, sprawl has chewed up enormous parts of the landscape and caused such widespread lowering of the groundwater table as to dry out most short hydro-period wetlands. Flood-control related to growth in this area has rendered receiving estuarine waters to a near lifeless state. This has been induced in part by federal infrastructure such as Interstate 75 and a new international airport. The final AEIS could take into consideration the relative harm of alternative land uses to phosphate mining such as large scale | The cumulative impacts analysis takes into account past, present and reasonably foreseeable actions other than mining. For example, the surface and groundwater analyses consider reasonably foreseeable future land uses. NEPA does not require consideration of other, more speculative predictions of future land uses, in place of or after mining. |

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| | | | development rather than treat mining as an isolated impact to the environment. | |
| 000000385-3 | Jono Miller | Private Citizen | Figure 2-12 (Page 2-25) reveals that both in absolute and relative terms, more of the Myakka Basin has been protected than in any of the other basins in the CFPD. This represents tremendous public investment over more than 75 years, and deserves to be protected just as rigorously as potable water sources do. Consequently, I am particularly concerned regarding impacts on public resources in the Myakka Basin, which not only contains currently permitted Wingate Creek mine (Figure 2-1, Page 2-5), but also the proposed Pine Level/Keys Tract mine (Figure 2-3, Page 2-10), the Wingate East Mine extension (Figure 2-2, Page 2-7) and ten alternative polygons (Page 2-53 Figure 2-27) L, K, Q, R-2, U, V, W, X, and Y-2. | The direct and indirect effects of the one proposed action (Wingate East) and two alternatives (Pine Level/Keys Tract and Site W-2), and the cumulative impacts of Wingate Creek, Wingate East and Pine Level/Keys Tract, along with other past, present, and reasonably foreseeable actions, on the Myakka River watershed are considered in Chapter 4. |
| 000000393-3 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the environmental analysis given that the 25 alternatives are not addressed in a consistent fashion. The alternatives are grouped by: No Action (1 alternative), Proposed (4 alternatives), Foreseeable (3 alternatives) and Potential (17 alternatives). We request that each analysis be completed by group on a stepwise basis. No action, then Proposed, then Proposed plus Foreseeable and finally, all alternatives together. It is quite possible that the FAEIS could be referenced for future mining permitting action. Mine effect timing is listed as: Alternative 5 South Pasture Extension: 2025-2030 Alternative 2 Desoto 2030-2040 Alternative 4 Wingate East 2030-2045 Alternative 3 Ona 2040-2045 Alternative 6 Pine Level 2050-2060 Alternative 7 Pioneer 2060-2070. Especially, since Foreseeable mine alternatives include potential mining after the Proposed alternatives are played out and into 2070. Analyzing the foreseeable mines individually avoids discussion of cumulative impacts. In addition, this cumulative analysis could help answer the question of when cumulative impacts could overwhelm the natural system. | The analyses of direct and indirect effects in Chapter 4 consider each alternative separately, including determinations of degree and significance of effect for each one. The cumulative impact analysis considers the past, present, and reasonably foreseeable mining actions along with other, non-mining actions. |
| 000000542-1 | Percy Angelo | Private Citizen | Please look closely at the chart below. It is emblematic of the problem with the AEIS draft: (Figure may be seen in attached file.)Figure 4-61. Phosphate Lands Mined and Not Yet Reclaimed | Comment acknowledged. The referenced chart shows the process of ongoing mining activity creating area needing reclamation, and ongoing reclamation converting previously mined area into reclaimed area. |

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| 000000542-25 | Percy Angelo | Private Citizen | One cumulative consequence in particular provides an example of the absurdity of the analysis. Numerous charts and aerials demonstrate the extensive network of wetlands and streams to be destroyed (though the Corps never provides a cumulative list). A rough calculation is that some 12,000 acres of wetlands and 469,009 feet of streams will be destroyed by the identified four mines alone. Including the 3 specified alternatives, which are simply future projects, not really alternatives, over 37,000 acres of wetlands will be destroyed. See 1-17 to 1-19 and 2-9. | Comment acknowledged. |
| 000000542-34 | Percy Angelo | Private Citizen | The map at 3-87, though supplied for the discussion of TMDLs, can be used to tease out past, present and proposed mines, though it does not reveal the additional so-called alternatives. It does show that the entire upper reach of the Peace is covered with mines on either side, and the entire lower reach of the Peace in the CFPD is proposed for mines, although the river itself, unaccountably, is not shown. | Comment acknowledged. |
| 000000542-96 | Percy Angelo | Private Citizen | The DAEIS indicates that the soils in the Peace and Myakka watersheds are actually more likely to be sandy, with a high water table, than the CFPD as a whole. 3-19 to 20 (Peace 49%, Myakka 63%). This indicates a high potential for runoff and wetlands, id., suggesting that the impact of mining in the future could be greater and even more damaging than in the past. Similarly the wetland map provided at 3-109 indicates that the area proposed for mining has significant wetland areas, including wetland hardwood forests, the most difficult to replace. At 3-112 the DAEIS contains a summary of wetlands currently within the CFPD and its watersheds. The Peace and Myakka between them have approximately 63% of the total, suggesting the magnitude of the threatened loss, and, possibly, the magnitude of the past loss as well. The impact of these past and future losses is never discussed in the Consequences section of the document. | The cumulative impacts section of Chapter 4 of the Final AEIS considers the cumulative effects of phosphate mining on wetlands. |
| 000000542-105 | Percy Angelo | Private Citizen | J. The Cumulative Impacts of CFPD Mining on Water Flows Are Never Addressed. As noted above, one must combine three maps (past mining, 4 additional mines and alternatives likely to be mined in the future) and many separate pages of data to identify the total mining impacting CFPD. Yet additional maps must be consulted to put those mines into context with the rivers impacted and the gaging stations used. When you | The analytical approaches and analyses on water flows are provided in the surface and groundwater Sections of Chapter 4, and Appendixes F, G, and J. Details of cumulative impacts are provided in the cumulative impacts section of Chapter 4, which also clarified the effects of past and future mining on springs in the region. |

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| | | | do combine those maps you see that most of the CFPD, leaving out urbanized areas and a few state parks, has been mined or must be recognized as open for future mining. Nowhere does the DAEIS address the consequence of mining this vast area of west central Florida. We know that mining the northern part of this area has had devastating effects on the Floridan aquifer (drops of 20-50 feet), on flows in the upper Peace River (totally dry in some locations, sinkholes and drying up of Kissingen Springs), on the amount of wetlands and on the total amount of stream lengths. The assumption of the DAEIS is that four more mines wont make the impact that much worse. Using the same analysis it apparently concludes that the next mines, which are not in fact alternatives, but are actually on the drawing board, will have the same result, theyll be worse but they wont be that much worse. Under this piecemeal approach there will never be a tipping point, well start off with serious damage, which well ignore, and well add 15% loss, and then another 15% loss, and then maybe another and well never recognize the cumulative damage. This is the approach of the DAEIS, but it is forbidden by NEPA. | |
| 000000550-5 | POW & LBC, James Cooper | Environmental Organization | MAJOR FLAW: All ONGOING Phosphate Mine operations in the CFPD scope of this study are NOT listed properly by name & accounted for Cumulative Impacts analysis on the watersheds per NEPA rules in this DAEIS. This DAEIS fails to adequately address 6 other known by the ACE as ONGOING active Phosphate Mine providing daily IMPACTS to the CFPD and all possess Army Corps CWA permits in the CFPD, such as: Altman (Mosaic), South Ft Meade Extension (Mosaic), Wingate (Mosaic), Manson Jenkins (Mosaic), Hookers Prairie (Mosiac) & South Pasture (CFI). This raises serious doubts about the true intent of this DAEIS & its industry proponents (both Mosaic CFI) & the Army Corps and their knowledge of NEPA rules and the NEPA requirement to address all PRESENT KNOWN Cumulative Impacts. In fact, this serious omission appears to be an obvious attempt to circumvent NEPA rules. Why does the DAEIS fail to follow NEPA rules and fail to properly analyze all known PRESENT Cumulative Impacts on the entire 7-county region ecosystem and downstream impacts to its heart - Charlotte Harbor & its 4,400 mile coastline the key watershed & economic engine for the | Chapters 1, 2, and 4 all list the currently operating mines in the CFPD and within the Peace and Myakka River watersheds. The cumulative impact analysis in Chapter 4 does consider the effects of these existing mines. |

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| | | | region, by not including all known mines. All impacts must be properly analyzed based upon the timing (each season & each year) of each strip mine operation & the location of ARNI watershed streams & wetlands - noting any impacts to them? | |
| 000000550-15 | POW & LBC, James Cooper | Environmental Organization | THE CEQ requires Assessment of Cumulative Impacts: Cumulative Impacts of an action can be viewed as the Total Effects on a resource, ecosystem, or human community of that action & all other activities affecting that resource - no matter what entity (federal, non-federal, or private-such as in this case: Mosaic & CFI Phosphate Mining firms) is taking the actions (In this case to obtain required Federal Section 404 Clean Water Act Permits. --- Cumulative Impacts that result in significant impacts can be the basis for adverse ratings.. Ratings (By EPA Review) should be based on the overall impact of the proposed project or action, which includes cumulative impacts. --- Comments should include mitigation measures to avoid or minimize damage to the environment or to protect, restore or enhance the environment. At a minimum, the mitigation should address the projects contribution to the cumulative impacts. --- Resources & Ecosystems are key components to be evaluated for Cumulative Impacts: EPA reviewers should review IF: the NEPA analysis has identified the resources & ecosystem components Cumulatively Impacted - by the proposed action & other actions. To determine which resources are cumulatively impacted and then ask these questions: --- Is the resource or habitat especially vulnerable to incremental effects? --- Is the proposed action one of several other similar actions in the same geographic area? --- Do other activities in the area have similar effects on the resource? --- Have these effects been historically significant for this resource? --- Have other analyses in the area identified a cumulative impacts concern? Per the EPA: Ecosystem components should be considered, when they are significantly impacted by Cumulative Impacts. Here is a key example: Why they MUST be considered per the CFPD-DAEIS: The 50 long years of intense Phosphate Mining & the subsequent 20 years of post-mining, reclaiming efforts at all known 6 future mines on the (1) Land and its ecosystems (primarily the Wetlands) & the (2) Water - how it affects the quality, natural aquifer storage, and flow levels for streams, creeks, and all tributaries flowing into | The AEIS includes a cumulative effects analysis of past, present, and reasonably foreseeable actions, including non-mining actions, in accordance with the applicable regulations and guidance. |

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| | | | Charlotte Harbor and all of their relevant ecosystems- all the way into Charlotte Harbor). How they affect the Surface water flows: pre & post mining & the Aquifer water levels: pre & post mining as well. (3) Air : Do the radiation components from gypsum stacks or clay settling areas have any negative impacts on local birds, wildlife, land habits or their water habitats. Summary: Any Cumulative Impacts on these 3 ecosystem elements must be analyzed in a DEIS. | |
| 000000553-4 | Percy Angelo | Private Citizen | And localized climate studies by NOAA and NASA scientists demonstrate that the very removal of wetlands by the mining companies is the likely cause of the reduction of rainfall experienced in the mined areas,which means that the proposed additional destruction will make rainfall, groundwater and surface water problems even worse. | Comment acknowledged. |
| 000000553-6 | Percy Angelo | Private Citizen | The Council of Environmental Quality in its Guidance on Mitigation and Monitoring, January 14, 211, p. 15, has determined that mitigation should be monitored and where mitigation is not successful a supplemental NEPA analysis may be required. 4 CFR 152.9 (c) requires that supplemental EIS documents be prepared if the agency makes significant changes to an action, or if there are significant new circumstances or information. When the agricultural pumping cutbacks assumed by the DAEIS are not realized, or the stable population usage also assumed is not maintained; or when the flow impacts are found to be underestimated (as we know they must be since they are not cumulative); or when the impacted public water supplies are forced to look for alternative sources, at great expense, citizens will quite rightly look to the Corps and demand a supplemental EIS to address the problem of vastly unrealistic predictions. In other words, whatever the success in sweeping the issues under the rug at this point, the AEIS in question will eventually be judged against reality. Do the mining companies or the Corps really want to face a supplemental EIS in 22, after investments have been made? This does not make business sense any more than it makes sense under the requirements of NEPA. | Chapter 5 of the Final AEIS includes an expanded discussion of mitigation monitoring and adaptive management requirements and ongoing agency coordination following completion of the Final AEIS. Appendix I of the Final AEIS includes examples of monitoring and adaptive management special conditions that can be tailored to the four similar Applicants' Preferred Alternatives if USACE were to make a favorable permitting decision. Monitoring and adaptive management requirements will be determined by USACE in coordination with USEPA in accordance with the Section 404(q) procedures. |
| 000000553-37 | Percy Angelo | Private Citizen | Thus, the Florida advantage is due to low cost and historical location, access to ocean transportation, cheap energy, negligible taxes, high quality rock, low overburden, plentiful and virtually free water, and minimal land reclamation costs. | Comment acknowledged. |

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| | | | The real cost to Florida society is the loss of first class farm land, depletion of the aquifer, the accumulation of toxic waste, and the potential destruction of the downstream water supply. | |

## Economics

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| **Summary Comments** | | | | |
| **ECON-1** | | | **A number of the commenters took exception to what they perceived as a lack of evaluation of the value of the natural resources that might be impacted by the mining of the phosphate.** | **The Final AEIS provides sufficient quantitative information to allow the USACE to make a reasoned chose amongst alternatives. Also, pursuant to the USACE Regulatory NEPA implementing regulations at 33 CFR Part 325 Appendix B; the USACE does not prepare cost-benefit analyses for projects requiring a USACE permit. Chapter 4 addresses the impacts associated with mining, and potential mitigation for those impacts. Chapter 5 has additional information about mitigation, including of impacts to waters of the U.S.** |
| 000000199-10 | James Cooper | Private Citizen | And in their economic section, they dont look at the value of the resources of Charlotte Harbor at all. All they look at is the value of mining in the central Florida phosphate business, and how many jobs it creates, and how many jobs they created before, and how many railroad cars going down the road, and how many guards they hire. Look at all the people with blue T-shirts on the side here. That's what they look at. They dont look at all the jobs that are wasted as a result of their mining. And I think this Charlotte Harbor NEP has said the value of Charlotte Harbor's economy, based on keeping it healthy, is 3.2 billion dollars. This far exceeds the value of mining jobs. I 'm not saying stop the mining. I 'm saying do the mining in a better way, smarter way that doesnt create impact. Thats all I'm saying. | Included in summary response above. |
| 000000272-58 | Sarasota County, FL, Christine Robinson | County Government | 2-1 Pages 2-2 and 2-33 describe that for a mine to be a stand-alone operation and economically productive, it requires a minimum of 9,000 acres, working 300 acres per year for 30 years. Analysis of the economic and public value of phosphate rock was conducted; however no analysis was conducted for the economic and public value of the wetland and stream habitats in the Draft AEIS. Wetland values vary from the type of wetland to the functions provided. Among them are: water storage, water quality, wildlife, and fish habitat, and their recreational value to the public. An independent economic evaluation should be included in the AEIS to compare the economic and public value for wetlands, streams, floodplain, and water quality and quantify them against the economic value of mining of those wetlands. An analysis of economic and public value of wetland and stream habitats is found in the following publications; Iovanna, R., & | Included in summary response above. |

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| | | | Griffiths, C. (2006). "Clean Water, Ecological Benefits, and Benefits Transfer: A Work in Progress at the U.S. EPA" Ecological Economics, 60(20):473-482; Lambert, A. (2003). "Economic Valuation of Wetlands: an Important Component of Wetland Management Strategies at the River Basin Scale" www.conservationfinance.org/guide/guide/images/18_lambe.pdf: Mitsch, J. W., & Gosselink, J.G. (2000) "The value of wetlands: importance of scale and landscaping setting" Ecological Economics, 35(1): 25-33; Woodward R.T., & Wui, Y.S. (2001) "The economic value of wetland services a meta-analysis" Ecological Economics, 37(2):257-270. | |
| 000000280-36B | Lee County, FL, Roland Ottolini, P.E. | County Government | Must include the economic value of recreation, tourism and the natural system and the loss of revenues due to mine alternatives implemented | Included in summary response above. |
| 000000280-61 | Lee County, FL, Roland Ottolini, P.E. | County Government | Local and Regional Economic Ramifications of the Reasonably Foreseeable Future Mines Again, must include the economic value of recreation, tourism and the natural system and the loss of revenues due to mine alternatives implemented. | Included in summary response above. |
| 000000281-1B | Sandra Ripberger | Private Citizen | While ecosystems are being lost, the AEIS focuses on short-term economic factors and does not consider the value of Floridas natural resources clean air, water, wetlands and native habitat. | Included in summary response above. |
| 000000349-14 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 3.0 Assumptions Page = Page 8 Line = Various Issue: Within the assumptions presented in Section 3.0 there is nothing concerning the externality value of wetlands. Real economic value of wetlands ignored. Comment: In the Executive Summary there are references to the acreage of wetlands that will be affected as a result of the mining activities. The economic analysis in Appendix F does not assume any loss value for either the wetlands totally lost or for the wetlands that are taken out of service for a time. This omission means that the wetlands' environmental externality values are ignored. There is an extensive literature concerning ways to attach dollar values to productive wetlands, thereby attaching a specific economic value to the externality associated with their beneficial service. The result of this omission is that the No-Action Alternative, where the wetlands remain intact, is penalized compared to the mining alternatives where wetland disturbance comes free. | Included in summary response above. |

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| 000000349-22 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 3.0 Assumptions Page = Page 8 Line = Various Issue: Externality Value for Wetlands. (See also Comment #14) Comment: Need references to provide values for the externality values for Wetlands. Here is one there are others Wetlands and Agriculture: Private Interests and Public Benefits, Ralph E. Heimlich, Keith D. Wiebe, Roger Claassen, Dwight Gadsby, and Robert M. House, Agricultural Economics Report No. (AER765) 104 pp, September 1998 | Included in summary response above. |
| 000000371-79 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | What is the potential economic value of the wetlands and streams to be impacted by mining? What is the economic value of agricultural land that will be lost during mining? There are lots of estimates of the value of native habitat available (CHNEP documents). Seems a stretch to argue that if it isn't mined then it will ultimately be converted to other land uses given both the history of preservation and current wetland rules governing urban development. | Included in summary response above. |
| 000000372-3A | Rachel Renne | Private Citizen | The Economic Analysis fails to account for the serious environmental disruption associated with phosphate mining. In Chapter 4 (page 30, section 4.3.1 lines 1-3) the No Action alternative is presented as favorable to wildlife in that no disturbance of the land would allow the populations to remain in place. What is the monetary value of an undisturbed ecosystem? It is difficult to appraise the value of an ecosystem to humans. Wetlands are recognized as vital to water quality and as the Peace River serves as a major source of drinking water for Charlotte County, the maintenance of the wetlands in the Peace River watershed alone is vital to the health of the human communities in this region of Florida. In addition, the disturbance of mining is certain to disrupt ecosystem functions such as carbon sequestration by vegetation, recycling of nutrients by decomposers, and pollination. The latter is of special interest to a society that relies upon pollination for many agricultural crops, including Floridas proud orange industry. The increase of disease in honeybee populations is a global issue, and with it comes a need for alternative pollinators. Natural areas, undisturbed by development serve to harbor a diverse array of native pollinators that will travel to neighboring agricultural areas. The loss of these pools of pollinators is difficult to monetarily quantify, and has not been considered by the Environmental | Included in summary response above. |

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| | | | Impact Statement. | |
| 000000372-3B | Rachel Renne | Private Citizen | The Economic Analysis fails to account for the serious environmental disruption associated with phosphate mining. In Chapter 4 (page 30, section 4.3.1 lines 1-3) the No Action alternative is presented as favorable to wildlife in that no disturbance of the land would allow the populations to remain in place. What is the monetary value of an undisturbed ecosystem? It is difficult to appraise the value of an ecosystem to humans. Wetlands are recognized as vital to water quality and as the Peace River serves as a major source of drinking water for Charlotte County, the maintenance of the wetlands in the Peace River watershed alone is vital to the health of the human communities in this region of Florida. In addition, the disturbance of mining is certain to disrupt ecosystem functions such as carbon sequestration by vegetation, recycling of nutrients by decomposers, and pollination. The latter is of special interest to a society that relies upon pollination for many agricultural crops, including Floridas proud orange industry. The increase of disease in honeybee populations is a global issue, and with it comes a need for alternative pollinators. Natural areas, undisturbed by development serve to harbor a diverse array of native pollinators that will travel to neighboring agricultural areas. The loss of these pools of pollinators is difficult to monetarily quantify, and has not been considered by the Environmental Impact Statement. | Included in summary response above. |
| 000000390-8 | Just the Facts | Non-profit Organization | The AEIS seems to focus on the economic value and not the value of the water, wetlands, natural resources, and land. The public interest needs to become more of a focus in any re-draft. | Included in summary response above. |
| 000000542-134 | Percy Angelo | Private Citizen | P. The DAEIS Fails to Consider the Economic Value of the Resources Lost to Phosphate Mining or the Costs to the Public of Mining -The economic analysis entirely fails to consider the economic value of the natural resources taken or placed at risk by the mining proposals-The Environmental groups have supplied the Corps and its contractor with extensive evidence of the economic value of the natural resources Charlotte Harbor watershed and have urged the drafters to include this issue in their analysis. The Corps and drafters have also worked with the CHNEP, which has studied | Included in summary response above. |

## Economics

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | these issues extensively. Despite this, the DAEIS does not consider the value of these resources, the risk of their damage from loss of water flows, spills or chronic water quality impacts. A 1998 CHNEP report, previously sent to the Corps, provided an estimate of economic value of the resources of the CHNEP watershed. In November of 2011 Jim Beever of the Southwest Florida Regional Planning Council adjusted the 1998 values to 2010 dollars. For the study area the direct and indirect income attributable to natural resources was: Tourism and Recreation $3.08 Billion Commercial and Recreational Fishing $182 Million Agriculture $940 Million Mining $378.4 Million The incremental value of real estate associated with bay front, ocean front and riverfront property was NOT included, but obviously would substantially increase these values. Note that Mining is only slightly over 10% of the total, yet the value of the natural resources of the area for purposes other than mining was entirely omitted from the draft AEIS. Another way of looking at the economic value of the natural resources of the area is provided by a 2011 study prepared for the Everglades Foundation, The Economic Impact of Recreational Tarpon Fishing in the Caloosahatchee River and Charlotte Harbor Region of Florida,' Ex. 38. That study surveyed the licensed saltwater anglers actually resident in Charlotte, Collier, Lee and Sarasota Counties about their days of tarpon fishing and their expenditures and then considered indirect economic impacts as well from those expenditures. The yearly total was over $108 million, including over $33 million in local salaries, wages and business owner income and over 1000 full time jobs. This number understates the totals because it doesnt include the many nonresident tourists attracted to the area by the tarpon resource, but it demonstrates the extraordinary value of the natural resource of Charlotte Harbor in just one isolated area, tarpon fishing. Other sources are available which provide well-researched values for Floridas natural resources, sometimes called ecosystem services.' With these examples, the failure of the DAEIS so-called economic analysis' to consider anything other than phosphate income and expenditures is laughable. | |

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| 000000542-141 | Percy Angelo | Private Citizen | The DAEIS ignores the value of its natural resources to the future of the state. In Mirage, Florida and the Vanishing Water of the Eastern U.S., Cynthia Barnett quotes former governor Reubin (sp) Askew as saying, Ecological destruction in Florida is nothing less than economic suicide.' Ex. 13, at 54. These issues belong in the AEIS. | Included in summary response above. |
| 000000542-204A | Percy Angelo | Private Citizen | The economic analysis also ignores some substantial additional costs of mining.- -The DAEIS purports to contain a study of the economic value of mining. It is improperly prepared and grossly inadequate.- Ex. 39, Richard Weisskoff, Comments on AEIS: Methods and Computations and International Aspects of Florida Phosphate Industry | Included in summary response above. |
| **ECON -2** | | | **Many commenters questioned why the phosphate industry wasn't being charged for the water that they used.** | **Anyone with a water use permit is not charged for the water that they consume. This applies to agricultural, mining, and urban uses. However, these customers must pay for the cost to transport and treat the water for their use. Horse Creek is only about 10% of the contributing drainage area in the Peace River Basin contributing to the PRMRWSA intake. See Chapter 3 and Appendix G, for more discussion on the PRMRWSA intake effects.** |
| 000000368-4 | Kevin P Wayne | Private Citizen | The (DAEIS) for Phosphate Mining should certainly include any information and recognition of Florida taxpayer subsidies directly or indirectly associated with the industry. | Included in summary response above. |
| 000000384-2A | Terry Miller | Private Citizen | 5) Please explain why the massive use of Florida water is free to phosphate mining and why Florida taxpayers are subsidizing phosphate mining in Florida. | Included in summary response above. |
| 000000542-74 | Percy Angelo | Private Citizen | The DAEIS inadvertently reveals the great value of the water which the mining companies use for free.-Notably, the draft discusses the fact that the Desoto mine, in southern Desoto County, will have to rely on water pumped via a new pipeline from the Fort Green Mine in southern Polk County because wells at the Desoto mine itself would be too close to Charlotte Harbor and have a higher risk of creating saltwater intrusion. Additionally, the draft notes that if the No Action Alternative were selected the waters currently used by the mines and gradually given up, would likely be highly sought by other users. 4-63 (emphasis supplied). This is an extraordinary statement and is also nowhere accounted for when the economic costs and effects of mining are | Included in summary response above. |

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| | | | calculated. | |
| **ECON-3** | | | **Commenters raised concerns about the use of the IMPLAN model and the assumptions used. Commenters indicated that other models would be preferable.** | **The economic analysis presented in the AEIS, was conducted by the USACE consultant, not by EcoNorthwest. The analysis uses the IMPLAN model, which is widely recognized and used to conduct the types of analysis performed for the AEIS. A comparison of modeling options and the rationale for using IMPLAN is provided in Appendix H. The Appendix also details assumptions related to post-mining productivity and other issues raised by commenters.** |
| 000000005-1 | HD Supply/Shale Inland, Richard Beckert | Private Citizen | I wish to comment on ES6.4. the economic impact of continuing phosphate operations cannot be overlooked. The Executive Summary focuses on the economic impact to the counties where the new mining permits will be issued.This only tells part of the story. Phosphate operations have a major affect on the entire Central Florida Region. Phosphate directly or indirectly supports thousands of employees and hundreds of busineeses of all sizes.It is an oversight to focus on the impact of just a few counties when the economics of Phosphate tuoches most of Central Florida. | Positive economic benefits are captured in the economic analysis, particularly those outside of our economic study area, which consists of the CFPD, and 3 additional counties (Charlotte, Lee, and Sarasota). These assumptions have been clarified in Appendix H of the Final AEIS. |
| 000000024-6 | Mosaic Fertilizer LLC , Monica Schulz | Company | Phosphate Mining creates awesome job opportunities for people (almost 7,000 direct and indirect jobs in Florida and Louisiana) and make sure they uphold the highest ethical standards. | Comment acknowledged. |
| 000000192-2A | ManaSota - 88, Glenn Compton | Environmental Organization | Because the long-term detrimental effects of rapid mining of a non-renewable resource do not appear to have been included as part of the DAEIS, the estimated value of phosphate minerals in our short-term economy is probably overstated.As an example, the DAEIS implies economic productivity will be enhanced by the continued operation of the phosphate industry and as a result of the trade-offs of destruction of our land and water resources - we get in exchange low-cost fertilizer.The DAEIS cites the important advantages phosphate mining brings Florida in taxes and employment. However, projected mining income from just Manatee and DeSoto counties combined fails to match the natural resource oriented income of tourism and agriculture. The costs of pollution and drawdown of Florida's aquifers, loss of wetlands and other natural systems, restricted uses of land after mining, contamination of surface waters, and increased mining-related health costs have never been | Impacts over 50 year study period have been addressed in the analysis. The economic analysis evaluates impacts to the economy of issuing phosphate mining permits, not the value of phosphate minerals. The analysis does not state that economic productivity will be enhanced by continued mining, just that these economic activities will continue. Chapter 4 does address the temporal loss of habitats and their associated functions and discusses the mitigation required to replace lost function, including biological communities. Impacts to ecological functions and the associated mitigation that would be required to offset those impacts are addressed in detail in Chapter 5. Other impacts noted are considered to generally to be minor after mitigation as discussed in Chapter 4. |

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| | | | computed. If the latter were accomplished, the negative economic impact of phosphate mining would become even more apparent. | |
| 000000192-2D | ManaSota - 88, Glenn Compton | Environmental Organization | A proper economic assessment can only be made when the costs of the following are included - the irretrievable commitment of fossil fuels to generate the electricity needs of the industry, the irretrievable commitment of chemicals used in processing, land-use changes caused by the mining that will narrow future land-use plans, timber destruction, loss of habitat types and natural wildlife and community diversity, hazards associated with redistribution of radioactive materials, the drawdown and contamination of groundwater supplies, destruction of wetlands, and finally the social and welfare costs as a result of exposure to products and waste products of these operations. | Because the proposed mines are replacing other mines that will be reclaimed and closed as the new mines begin, there will ne not increase in energy use or demand. Land use changes associated with the mining and subsequent reclamation have been addressed in the economic analysis in Appendix H and the land use section of Chapter 4. Surface water, groundwater, water quality, and ecological resources are addressed in individual sections of Chapter 4 of the Final AEIS. |
| 000000196-1 | Lisa Nason | Private Citizen | I'm distressed by an apparent lack of awareness, interest or focus on the enormously important economic impact benefits associated with mining (jobs, taxes, etc.) as well as the tremendous financial investments in environmental stewarship already expended (& planned) by the mining companies. Let stringent regs, stringent enforcement, and stringent compliance be the motto of the day & keep our phosphate miners WORKING & Contributing. | Comment acknowledged. The AEIS discusses the estimated impacts on jobs and taxes etc. in Chapter 4 of the FAEIS. Prior investments in environmental stewardship by the mine companies are beyond the scope of the AEIS. |
| 000000272-15 | Sarasota County, FL, Christine Robinson | County Government | Historically, clay settling areas have taken up approximately 40% of the landscape post-mining. Although there have been recent efforts to reduce the footprint of clay settling areas through consolidation techniques, the value of these lands for subsequent uses is not mentioned in Appendix F on the subject of economic analysis. The executive summary addresses economics but does not mention whether clay settling areas have reduced value as land post-mining. Can structures and other improvements be built on a CSA or is the land limited to certain uses, like agriculture? How long does that limitation persist? These items should be analyzed and addressed. | The analysis of the Applicants' Preferred mines incorporates the Applicant's expected use of those lands post mining. This includes plans for the clay settling areas. The clay settling areas are assumed to remain undeveloped for the period of the analysis. The use of the land beyond the study period is beyond the scope of the analysis. |

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| 000000272-56 | Sarasota County, FL, Christine Robinson | County Government | The USGS Mineral Commodity Summaries for 2010, 2011 and 2012 and the article by Stephen Jasinki on Phosphate Rock (2010) Minerals Yearbook, Phosphate Rock [Advanced Release], finds that Mosaic has/does import phosphate rock. The Draft AEIS should be revised to report quantities of such and provide cost benefit analysis of the environmental impacts of importation versus generation by mining in the CPD. | Chapter 2 evaluates the alternative of using other rock and why this alternative was eliminated from further review. |
| 000000278-1 | Florida Chamber of Commerce, Hart David A. | Non-profit Organization | To promote a sound, sustainable and thriving economic future for Florida, the Florida Chamber of Commerce has led the Six Pillars 20 Year Strategic Plan, which envisions a series of action-oriented steps, programs, and policies to respond to challenges of global competition and to achieve long-term economic prosperity for Florida's families and businesses. Along those lines, the phosphate industry fills an important role in several key elements of the Six Pillars 20 Year Strategic Plan, namely: promoting global competitiveness, cultivating vibrant communities and ensuring high-paying jobs. About 4/5ths of the country's phosphate rock is produced in Florida, making it the state's most important mined product. Indeed, the economic impact of the phosphate industry extends well beyond the communities it serves; the industry is a vital part of positioning Florida as a capable competitor in the global marketplace of the 21st Century. I want to take this opportunity to commend the Army Corp of Engineers for its sound, science-based study on the positive impacts of phosphate expansion in Florida. I also want to urge you to resist any political pressure to block the necessary expansion of this essential Florida industry. | Comment acknowledged. |
| 000000280-36A | Percy Angelo | Private Citizen | 4.2.4.2 Key Assumptions Supporting the Economic Analysis P. 4-27, line 15 The economic evaluation lists reclamation costs at $8.015/acre. This seems appropriate for uplands but wetland reclamation costs are typically listed as $40,000/acre or more. The AEIS lists a total of 9850 acres of wetlands to be affected so an increase in the cost of their reclamation by a factor of 4.5 - 5 is substantial. | The reclamation costs used in the AEIS Economic analysis was based on the amount of funds that the applicants are required to put aside for land reclamation under the State's financial assurance requirements. While this value may be low for some land uses, it may be balanced out by being high for others. |
| 000000348-11A | Barbara Angelucci | Private Citizen | 4.7 Economic Resources 4-124The economics used in the AEIS draft by the ACOE and Mosaic are flawed. | Comment Acknowledged. The Final AEIS has updated the analyses of economic resources. |

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| 000000348-11B | Barbara Angelucci | Private Citizen | EPA appropriate methodology must be used. | As a participating agency in the development of this Final AEIS, EPA and its staff have provided comments on the Draft AEIS (Submission Number 397). EPA has accepted the overall economic evaluation, but provided suggestions for modifications to the economic analysis. |
| 000000349-3 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Page = 8 Line = N/A Issue: "Revenue per tonne of phosphate at $67.11." Effect of price reductions not explained. Comment: The USGS reports that there are enormous phosphate resources in Morocco and elsewhere in Africa. What is the projected future price of phosphate? What are the consequences for the economic analyses if the price falls significantly below $67.11? | Phosphate is a commodity, the price of which fluctuates significantly. The values reported by the USGS do not reflect market prices for Phosphate but rather reflect internal transactions within the mining companies. The phosphate prices used in the Final AEIS were revised to reflect market phosphate prices as presented in the Global Trade Atlas which are significantly higher than were used in the Draft AEIS. |
| 000000349-4 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Page = 8 Line = N/A Issue: "Revenue per tonne of phosphate at $67.11." How is this used? Comment: Appendix F cites this "revenue per ton" figure but does not explain how this figure is used or even if the figure is used to develop any of the presentations attached to Appendix F as separate appendices. | This calculation is presented in Appendix H of the Final AEIS. |
| 000000349-5A | Robert Fellman | Private Citizen | Doc Ref = Executive Summary and Appendix F Page = Various Line = Various Issue: Capacities of alternative minable areas. Apparent inconsistencies. Comment: The Executive Summary states that Desoto, Ona, Wingate East and South Pasture can be associated with production rates of 6,6, 1.3 and 3.5 mt per year. | Table 5 in Appendix H has been revised to be consistent with the production rates presented in the purpose and needs section. |
| 000000349-5B | Robert Fellman | Private Citizen | These production rates do not agree with those used as a basis for the economic analysis in Appendix F where lower rock production rates are used. The production capacities presented on the executive summary should reflect the realistic, lower rates for rock production given the need for set¬backs, buffers, access roads etc, that is, in areas that cannot be mined. | Appendix H presents information on production rates and mineable land that were used as input to the economic analysis. |
| 000000349-7A | Robert Fellman | Private Citizen | Doc Ref = Executive Summary and Appendix F Page = Ex Summary Page 35, Appendix F page 8 Line = Various, line 12-15 in Exec Summary Issue: Appendix F states: "The cost of constructing a new beneficiation plant was estimated at $1 Billion and will be constructed over a 10-year period. Inconsistent presentation of beneficiation plants. Exec Summary states "The table also shows $200 million in average annual expenditures for construction of 2 | Information on beneficiation plants, their cost, and period or construction are provided in Appendix H. |

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| | | | beneficiation plants (for the Ona and Desoto Mines) during the first decade of the analysis." | |
| 000000349-7B | Robert Fellman | Private Citizen | Comment: There appears to be an inconsistency between Appendix F and the Executive Summary. Are there two beneficiation plants and is the total cost $2.0 B as suggested in Table ES- 13? Or is there one plant whose cost is $1.0B as suggested in Appendix F? Have both of these plants been taken into account in the Appendix F analysis? | Information on beneficiation plants, their cost, and period or construction are provided in Appendix H. |
| 000000349-8 | Robert Fellman | Private Citizen | Doc Ref = Appendix F, Table 3, Executive Summary, Table ES - 2 Page = Ex Summary Page 10, Appendix F page 4 Line = Various Issue: In Appendix F, Table 3 the figures for the total acres differs from the figures for the same acreages presented in the Ex. Sum. in Table ES-2. Inconsistencies in mineable acreages. Comment: Consistency among the documents is needed. The problem here is that in Appendix F, Table 3 for the Wingate East mine, the analysis for the "Total Mined" area is given as 3616 acres. This is not possible if the figure for the same acreage for Wingate East presented in Table ES-2, that is, 3635 acres is correct as it implies that there are virtually no setbacks or undisturbed areas within Wingate East. This needs to be fixed. | Appendix H presents information on mineable land that was used as input to the economic analysis. |
| 000000349-19 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 2.0 Economic Analysis Methodology Page = Page 5 Line = N/A Issue: Labor Income or Compensation -- Wages and Salaries, employer and employee contributions to social security. Basis for the labor compensation levels. Comment: Does it make sense for the social security contributions to be included in the labor income? These dollars are not necessarily spent in the counties. To include them overstates the labor income that drives the indirect and induced effects in the analysis. | The labor cost information that was used in the analysis included social security taxes and could not be readily separated out. The statement in Appendix H was clarified to indicate that social security taxes are included. |
| 000000349-20 | Robert Fellman | Private Citizen | Doc Ref = Appendix F, then Appendices A and B thereto. Page = N/A Line = N/A Issue: Impact Type: Labor Income Extremely high value Comment It appears that the jobs associated with mining operations covered within this study are compensated at a yearly rate of in excess of $100,000/year. Even including social security (employee as well as employer) benefits, these rates seem extreme. Mr. Bob Whalen, a Director and economist at EcoNorthwest, testified at a Manatee County Planning Commission meeting on Jan 12, 2012. The meeting dealt with the review by the | Clarification of these assumptions are updated and clarified in Appendix H. While the average direct labor income per employee for phosphate mining is about $78,000, once the benefits and payroll taxes etc. are included, the average employee compensation per employee is significantly higher. |

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| | | | Planning Commission of an application by Mosaic to re zone the area known as the Wingate Extension. He stated at that meeting that the jobs that would be coming to the county as a result of mining on the Wingate extension were compensated at about $59,000/year as opposed to the Manatee County average of about $38,000/year. The $59,000/year seems high, but Appendix F uses rates that are nearly twice that. Use of these high rates simply biases the economic analysis toward the mining alternatives and away from the No-action Alternative. | |
| 000000349-21 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 3.0 Assumptions Page = N/A Line = N/A Issue: Omission of property value loss to economic analysis. Comment: There is nothing in Appendix F discussing the loss to residential property values as a result of proximate location to the mines. There is no map of surrounding communities and residences and there is not even a qualitative discussion of the potential for loss of property values due near-by mining activities. This kind of consequence is self-evident. Its omission from Appendix is a glaring lapse that compromises the credibility of the document. At the Manatee County meeting of Commissioners on February 2, 2012, where a zoning application for the Wingate Extension was discussed and public comment was entered into the record, testimony presented at the meeting stated that residents adjacent to the proposed extension saw the value of their property significantly diminished. Appendix F is deficient in ignoring this consequence of mining. | Comment Acknowledged. This assumption is clarified in Appendix H. The impacts of the mining activities on neighboring residential property and after mining has been completed and the land reclaimed, property values of neighboring lands are assumed to be restored to about their pre-mining values. |
| 000000349-23 | Robert Fellman | Private Citizen | AEIS. Section 1.2, Project Purpose and Need, Table 1-4 Issue: Inconsistent Economic Presentations: Comment Table 1-4 on page 1-14 is inconsistent with presentations made in Appendix F. The following Tabulation displays inconsistencies between the two presentations: It appears that the Appendix F was not used in the section discussing the economics presented in the Project Purpose and Need. The USACE has gone to great length in Appendix F to develop an economic analysis and then appears to ignore it. The document needs to be consistent Mine Appendix F Reference Table Jobs created or Retained as Presented in Appendix F Jobs created or Retained according to Table 1-4 Desoto Table 12 405 300 Wingate East Table 16 117 127 Ona Table 14 694 300 South | The referenced sections in Chapter 1 and Appendix H have been updated. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Pasture Table 18 176 230 | |
| 000000356-2 | Thomas G. & Pamela R. Marciniak | Private Citizen | We would also like it recognized that Florida phosphate mining is not necessary for US or world fertilizer production. It should also be noted that Florida mining is being subsidized by Florida taxpayers and the Florida environment. | Comment acknowledged. |
| 000000359-1 | Florida Department of Agriculture and Consumer Services, Adam Putnam | State Agency | The Florida Department of Agriculture and Consumer Services (FDACS) is responsible for maintaining the continued strength of Floridas agricultural industry. The agriculture industry is the strongest pillar of Floridas economy, generating more than $100 billion in annual economic benefits, employing nearly one million people and producing nearly 300 commodities that are shipped globally helping to maintain the nations favorable agricultural trade balances.Its no secret that nearly all agriculture, whether row crops, nursery plants or animal husbandry, depends on a producers ability to grow food and fiber. Crop nutrients, including phosphate, are an essential ingredient to the success of Floridas agriculture industry.Florida is blessed with abundant phosphate resources that serve not only our farmers, but farmers around the globe as they generate the worlds food supply. This resource is vital to Florida, the United States and the global community. | Comment acknowledged. |
| 000000365-9 | Carol Mahler | Private Citizen | Although only its watershed and not its actual location is the Central Florida Phosphate District (CFPD), Myakka River State Park raises the issue of tourism, which is only mention in two places in the AEIS: pp. 184 and 199 in Chapter 4. On page 184, Mosaics substantial investment in Streamsong, a self-contained 16,000-acre destination ecotourism facility underlines the popular economic-development strategy of ecotourism in the CFPD.In contradiction, lines 23-27 on page 199 note that tourism is confined to the coastal area rather than the CFPD: Particularly along the coastal corridor, tourism is a substantive driver behind the local economy, and accordingly a high level of emphasis is awarded to protection of the environment against the cumulative effects of land conversion from natural land uses to those associated with agriculture, mining or other industrial activities, and urban or residential development. Environmental quality is a key factor in promoting seasonal or shorter-term tourism-based economic productivity.Floridas Freshwater Frontier, Inc., is | The AEIS indicates that primarily along the coastal corridor, tourism is a substantive driver, not that tourism is confined to that area. The AEIS has been clarified to indicate that there are tourism related activities in the CFPD. |

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| | | | the tourism marketing corporation for the South Central Florida regional economic development organization known as Floridas Heartland REDI, Inc. (FHREDI). It focuses on ecotourism in the region. In addition, a study by the University of Florida/IFAS entitled Economic Contributions of Agriculture, Natural Resources, and Related Industries in Florida Counties included nature-based recreation/eco-tourism. | |
| 000000366-1 | Marilyn Goodwin | Private Citizen | I am concerned that this study has not taken into account all of the negative impact that future phosphate mining can cause. If we do not at least curtail future mining, not only will our quality of life, but our economic well being will be in jeopardy. Please consider the comments made by the environmental groups. | Comment acknowledged. |
| 000000369-15A | Manatee County, FL, Ed Hunzeker | County Government | 4. Section 3.3.6.3, Page 3-125, Line 2: In reference to Figure 3-45, FDEPs Conceptual Integrated Habitat Network and Agricultural Land use Coverage in the CFPD, many of the Alternative Sites referenced in Chapter 2, fall in areas that have the Level 1 FLUCCS Agriculture designation, meaning they have active agricultural uses. Alternatively, these sites developing as mining operations instead of active agriculture, could significantly negatively contribute to the economy in the county. | The DAEIS evaluates the impacts that mining is expected to have an agricultural production and employment in the study area in Chapter 4. |
| 000000369-15B | Manatee County, FL, Ed Hunzeker | County Government | While agriculture is sustainable for generations, properties post-mining reclamation may not be able to support the same level of agriculture, especially in the clay settling areas. | The impacts on agricultural production on the mine sites over the 50 year analysis period are addressed in the AEIS in Appendix H and the economics section of Chapter 4. |
| 000000369-19A | Manatee County, FL, Ed Hunzeker | County Government | 8. Section 3.3.7.5, Page 3-138, Lines 16-29: Replacing active agriculture, a continuously renewable economy for future generations, with mining and reclamation, would negatively contribute to the economy in the county in the long-term unless there is a technological solution to dealing with background radioactivity and Radon Gas on reclamation lands in the future. While agriculture is sustainable for generations, properties post-mining reclamation may not be able to support the same level of agriculture, especially in the clay settling areas. | Comment Acknowledged. The economic analysis does account for mining impacts on agricultural production and employment, including the clay settling areas as described in Appendix H. |

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| 000000369-23 | Manatee County, FL, Ed Hunzeker | County Government | 2. Section 4.2.4.2: Key Assumptions assumes 40% of reclaimed land will be used as improved pasture after reclamation. We can conclude that this assumption is based on the fact that approximately 40% of mined land is used for the disposal of clays in CSAs. Therefore, it should also be assumed that another 40% of reclaimed mine land will be comprised of lakes, streams, wetlands, etc. which are not available for development. Therefore, when mining is approved, less than 20% of the land post-reclamation will be available for development. This needs to be evaluated economically compared to the No Mine option. | The use of the land on the Applicant's preferred mines post reclamation is based on their post reclamation land use plans. For the existing mines and offsite mines, it was assumed that 40% of the lands would be used for agricultural purposes, and that the remaining 60% would be undeveloped. |
| 000000371-78 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Economic Resources - Shouldn't this section include both positive and negative economic components separately so the reader can see what was and wasn't included? The economic values presented in the text and appendix includes indirect and induced economic factors. Shouldn't such types of factors also be included in the environmental impacts section? | The IMPLAN model used in this analysis does not readily allow the user to separate positive and negative indirect and induced impacts as the commenter suggests. |
| 000000372-2 | Rachel Renne | Private Citizen | The Economic Analysis, as presented in Appendix F has thoroughly examined the economic implications of both mines and beneficiation plants within the pertinent counties, as well as summarizing the impacts for the entire region. Page 6 of Appendix F clearly outlines the areas considered in the analysis, including total output of production from the mines, the number of jobs anticipated, the wages and salaries, the Gross Regional Product, and the tax income projected (conservatively) for the counties. Within this analysis, however, several important factors have been neglected. The land has been analyzed for its agricultural output currently, and future projections with and without mining have been examined. With mining, agricultural output of the land is projected to decrease dramatically, for example, in the projections for the DeSoto mine, the agricultural output decreases from $15,800,000 in the first decade to $4,100,000 in the fifth decade. Not only is this decrease significant in the face of the growing population of the United States and the world, with its associated increased demands for food, but agriculture is also only a portion of the losses that will be associated with mining. | Comment acknowledged. |

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| 000000374-1 | Tampa Port Authority, Richard A Wainio | Other | The Tampa Port Authority supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. The Port of Tampa (Port) has been a gateway partner in developing phosphate's place as a major regional economic engine, and approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS. | Comment acknowledged. |
| 000000379-7 | The Fertilizer Institute, William C Herz | Non-profit Organization | In 2011, fertilizers accounted for 26 percent of total crop production operating costs.10 Considering this substantial share of a farmer's input costs, any increase in the price of fertilizer due to reduced supply threatens a farmer's ability to produce enough food in the most efficient manner. Additionally, without fertilizer to boost crop production in the areas already cultivated, farmers would need to put additional land into production to meet global food demand. The use of fertilizers, including phosphate fertilizers, allows farmers to grow more food on less land, preserving natural habitats. For these reasons we support the issuance of the requested permits so that Florida phosphate mining can continue to be an essential piece of global fertilizer and food production and distribution worldwide. | Comment acknowledged. |
| 000000384-2B | Terry Miller | Private Citizen | 4) Please confirm that the world's supply of phosphate is large and Florida's supply of phosphate is comparatively small. 6) Please explain why the phosphate mining industry deserves such protection, since the number of cluster jobs in agriculture would far outstrip those available in phosphate mining. | Florida phosphate is discussed in Chapter 1 and affected jobs are discussed in Appendix H of the Final AEIS. |
| 000000388-4 | Beverly Griffiths | Private Citizen | 4) The draft study does not seriously consider the loss of agricultural jobs which disappear when land is sold to phosphate mine companies and the impact that has on local economies (suppliers, transporters, markets) and workers. | The economic resources section of Chapter 4 and Appendix H present information on economic impacts associated with the loss of agricultural land and production. |
| 000000392-2 | The Sulfur Institute, Harold H Weber | Non-profit Organization | However, we are pleased that this AEIS recognizes importance of the phosphate industry, including "downstream" economic benefits. In this regard, the relationship between phosphate mining in Florida and utilization of other U.S. domestic products provides both economic and environmental benefits.Indeed, large-scale use of sulphur by the domestic phosphate industry in the United States supports a healthy sulphur industry that yields notable | Comment acknowledged. |

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| | | | environmental benefits. Without a thriving phosphate industry, significant amounts of sulphur recovered from petroleum refining and natural gas processing likely would require either disposal or significant investments to research and develop new markets. There is a sound integration between production of sulphur as a co-product of petroleum refining and natural gas processing and use of this sulphur in the fertilizer industry. Without ongoing phosphate fertilizer production, spurred by a steady stream of domestic phosphate rock mined in Florida, a significant market for sulphur would decline (or disappear). Without expanding the scope of the AEIS, the public should be aware of these important economic interrelationships that benefit our environment by making use of what would otherwise be a surplus material sent for disposal. | |
| 000000397-19A | US Enviromental Protection Agency, William L Cox | Federal Agency | EPA Recommendations: Overall, the NCEE reviewers have suggested improvements for the FAEIS, including providing more documentation to support certain assumptions, better citation of sources, and consideration of the use of a higher discount rate. The reviewers noted that the discount rate has one of the largest impacts on the analysis, as a lower discount rate has the potential to inflate certain values. Additionally, the reviewers suggested that, in addition to the "with" and "without" mining alternatives, the FAEIS should consider scenarios which incorporate additional mitigation and conservation actions. Specific comments are as follows. The analysis uses a 2.0% discount rate as given as OMB Circular A-94, but this rate may not be appropriate for an analysis of phosphate mining. OMB's updated Circular A-4 recommends the use of both a 3% and 7% discount rate for benefit cost analysis. In order to appropriately calculate the net present value (NPV) of the economic impacts of phosphate mining, both 3% and 7%, presented alongside each other, is recommended. | The AEIS project team believes the Office of Management and Budget approved discount rate used in this analysis is appropriate. |
| 000000397-19B | US Enviromental Protection Agency, William L Cox | Federal Agency | 10. DAEIS Economics Analysis EPA's National Center for Environmental Economics (NCEE) conducted a thorough review of the economics analysis in the DAEIS and provided the following technical comments for consideration by the USACE. The NCEE reviewers note that the DAEIS examined the economic impacts from planned phosphate mining in the Central Florida area, and appropriately examined the | The AEIS estimates the cumulative impacts of the alternatives, given likely other activities that may be going on concurrently, thus the inclusion of the potential offsite mines. The 50-year study period of this analysis was selected to capture the area-wide impacts of all mine alternatives considered. The impacts of these future mines beyond this 50 year study period, is |

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| | | | predicted changes in economic activity in an 8 county region, including five counties in the CFPD and three adjacent counties. The NCEE reviewers also note that the DAEIS featured an analysis that reports changes in the value of output, labor income, and value added, as well as changes in employment, and utilizes the IMPLAN economic impact assessment software system for the majority of its calculations. EPA notes that the IMPLAN software "is currently used by hundreds of government agencies, colleges and universities, non-profit organizations, corporations, and business development and community planning organizations." More discussion should be included in the FAEIS on the use of a 50-year time horizon, particularly since there are clearly positive and negative economic impacts of these projects that carry beyond the 50-year time horizon. For instance, from years 41-50 there are still mining activities projected to be occurring in the Pioneer and Pine Levels/Key Extension mines. | beyond the scope of this analysis. |
| 000000397-19C | US Environmental Protection Agency, William L Cox | Federal Agency | The FAEIS could easily be made more accurate for each mine based on existing information. | Comment acknowledged. Where information on the average production per acre of land was available for a specific mine it was used. The AEIS project team used this average value for the mines only for those potential mine sites where we did not have this information. |
| 000000397-19D | US Environmental Protection Agency, William L Cox | Federal Agency | Two assumptions in the DAEIS directly impact the results of the analysis and should be better supported by citations. First, the analysis assumes that reclamation is complete in 8 years, which should be better supported (for example, with peer reviewed literature). If not supported with peer reviewed literature, the analysis needs to use a better approach based on past data. The analysis also assumes that pasture is improved after reclamation. This also needs to be properly supported by data and citations. | After mining operations, state law requires that reclamation activities be completed within 8 years. The economic analysis is assuming that post reclamation; the land that is returned to agricultural use will be used as pasture (not improved pasture as indicated in the Draft AEIS). |
| 000000397-19E | US Environmental Protection Agency, William L Cox | Federal Agency | The FAEIS should consider the inclusion of adjustments for future land uses, even though these projections play a large role in other parts of the DAEIS. The NCEE reviewers note that there is no temporal component to the property taxes (they are constant over all years), and these assumptions could significantly bias the projections. Even though the other areas of the DAEIS contain relatively detailed information on phosphate deposits at each mine, this analysis | The Final AEIS economic analysis was revised to incorporate changes based on projected land use changes over the life of the mines. These results are in Appendix H. |

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| | | | assumes an average value of 7.10 tonnes (metric tons) per acre for all mines. | |
| 000000542-138 | Percy Angelo | Private Citizen | Further, it is clear that clay settling areas, in addition to their damage to groundwater and surface water systems, are likely permanently lost to productive use. USGS sources, discussed above, estimate CSA coverage at between 40-60% of the mine site. FIPR itself acknowledges that under the crust which eventually forms the clay is still the consistency of pudding' with only about 25% solids, which limits the amount of weight it can support. FIPR is generally positive about all things phosphate, but even FIPR is at a loss when dealing with CSAs. It concludes, uses are limited by the properties of the clay that leave the settling areas unstable.' fipr.state.fl.us/Phosphate Primer. Ex. 24. Any economic analysis must recognize the permanent loss of value of CSAs. | Comment Acknowledged. The economic analysis in the AEIS assumes the post reclamation land uses of the Applicant's preferred mines will be in accordance with the post reclamation land use plans for these sites. These plans include land for the CSAs, which are assumed to not be returned to productive use during the study period. |
| 000000542-140 | Percy Angelo | Private Citizen | A number of formerly mined sites are on the Superfund list in light of continuing contamination. One site, Tenoroc, has already been addressed, though it still presents some contamination issues). USEPA has sought to do overflights to identify radiation readings on former mined sites; these have been blocked in large measure for political reasons, but it is clear that the Superfund law (the Comprehensive Environmental Response Compensation and Liability Act or CERCLA) does apply to these sites and will eventually mandate cleanup. These cleanup costs may have to be paid by the public, if private industry is no longer available. This cost is never considered by the DAEIS. | Clean-up of prior mine sites is outside the scope of the AEIS (Chapter 1) and a discussion of waste management in general is covered in Chapter 3. |
| 000000542-142 | Percy Angelo | Private Citizen | The DAEIS purports to contain a study of the economic value of mining. It is improperly prepared and grossly inadequate.- The DAEIS contains a study prepared by EcoNorthwest on behalf of Mosaic, using a model called IMPLAN, and pretends that this work constitutes an independent analysis of the economic value of mining. It is improperly prepared and entirely inadequate. Exhibit 39 is a critical analysis of the EcoNorthwest/DAEIS work by Professor Richard Weisskoff of the Department of International Studies at the University of Miami. Professor Weisskoffs work was done on behalf of the Florida Chapter of the Sierra Club. Professor Weisskoff has done extensive work on the economic impact of environmental and mining projects in Florida, including a | Included in summary response above. |

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| | | | study for the Corps of the economic impact of Everglades Restoration. Some of his experience is outlined in Ex. 39. He has previously prepared studies of the economic impacts of mining in Hardee and Desoto Counties which have been provided to the Corps. The Sierra Club obtained the worksheets supporting the DAEIS economic modeling from the Corps and provided them to Professor Weiskoff. The Corps is referred to Exhibit 39 for a full discussion of Weisskoffs findings, but a brief summary is provided here: -The DAEIS/EcoNorthwest approach uses the IMPLAN model (AEIS-IMPLAN) to assume the economy is essentially frozen throughout the period studied, not accounting for issues such as the increase in value of Hardee County agriculture, despite loss of acreage. Freezing the economy from 2012 to 2060 undervalues the dynamic sectors such as agriculture and favors capital-intensive sectors such as mining. -Agriculture actually should increase in value over the period. AEIS-IMPLAN does not allow this. The USDA publishes Outlooks for all agricultural branches, and the US Census publishes county accounts in the Regional Economic Information System (REIS) and these should have been consulted, but werent The DAEIS then goes on to minimize or omit losses to the total farm sector, by pretending that reclaimed land is put back into the farm inventory. This is invalid because all of the land cannot be put back into inventory as it is used for CSAs, and lakes carved out of mined land. Estimates are that at least 25% of land is lost to agriculture. The DAEIS assumes 3.6%. This greatly underestimates the loss to agriculture from mining. The scenarios to be compared should be the difference between the GROWING agricultural economy without new mines and the losses from the removal of that growing activity compared to the claimed gains from the new mines. | |
| 000000542-143 | Percy Angelo | Private Citizen | The DAEIS also substantially undervalues the agricultural sector by counting only part of it, leaving out Services to Agriculture', which in fact is the largest single sector. Properly computed the Agriculture cluster, with services and the agriculture branches totals 3221 jobs, compared to the mining clusters 211 jobs. -Agriculture is more valuable to the counties in other ways. Both workers and owners live in the counties and their income is recycled into local businesses. Mining profits, in contrast, are sent to the home office (in | Included in summary response above. |

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| | | | Minnesota) and reinvested elsewhere, such as the purchase of a new mine in Peru. Only 1/3 of the mining value added goes to labor, and, if the workers live in Hardee County or Desoto County, it is only this amount plus the county share of severance taxes stays in the county. With the loss of ag workers the old towns like Ft. Meade and Bowling Green have become ghost towns. This is possibly the future for Wauchula. -Weisskoffs own economic studies using the Original IMPLAN data find that the Output multiplier for agricultural output is 1.254, compared to 1.176 for mining, meaning higher outputs for agriculture in direct, indirect and induced effects. (1.254 means that a $1000 investment for agriculture will result in $1254 of direct, indirect and induced effects. This is a 6.6% advantage for agriculture. But the employment advantage is even higher. The agricultural employment multiplier is 12.5 jobs per million dollars versus 4.60 jobs per million dollars: 73% higher for agriculture. While mining may create greater value in output and property value (profits), agriculture creates both labor value (in agricultural services) and property value (profits) in farming, and many more jobs. -Weisskoff points out that the EcoNorthwest/DAEIS IMPLAN data for Hardee County does not provide its source data and is directly contradicted by a study done by Grace Johns in 2005 for the Hardee County Commissioners. The differences are significant, e.g. 694 jobs created according to the DAEIS IMPLAN for Ona mine versus 71 with a beneficiation plant and minus 11 jobs without one, according to Johns. The DAEIS values for different sectors are also very different from the Johns work in the past, the DAEIS value for mining being almost twice as high as the past studies, and the value of agriculture less than 1/2 as much. The DAEIS does not acknowledge the discrepancies, or provide reference to the sources used for its input, and it does not properly account for lost agricultural jobs, including losses associated with the potential yield of reclaimed land. | |
| 000000542-144 | Percy Angelo | Private Citizen | Weisskoff also reviews the DAEIS data entry worksheets and finds significant discrepancies with his own and others prior work, with no explanation of the source of the DAEIS data entries, which must be considered unsupported. The DAEIS numbers are simply not credible. Weisskoff also notes that Regional Economic Modeling Inc (REMI) is the correct model | Included in summary response above. |

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| | | | to use in a growth situation, not IMPLAN, to account for the big picture in a macro-dynamic sense. The DAEIS analysis uses IMPLAN inappropriately by freezing present technologies and not taking into account the full cost of displacing the dynamic and growing agricultural sector and its linkages. The DAEIS overvalues the relatively short period of mining income; mining being an industry with very little local connectivity relative to the agricultural activities it displaces. Weisskoff concludes that the DAEIS results use an inappropriate model, freezing the present technologies and not taking into account the full cost of displacing the valuable agricultural sector. The DAEIS results are simply not credible. He points out a number of areas in which they ignore accepted studies and fail to recognize the value of agriculture. | |
| 000000542-149 | Percy Angelo | Private Citizen | Professor Weisskoff also assembled data on the role of the Florida phosphate industry in the world market for phosphate and phosphate fertilizer. His report is attached as Ex. 39, Part 1. Analyzing data from the USGS and the International Fertilizer Association (IFA) Weisskoff finds that the US has 1.2% of the world phosphate rock reserves, but produced 14.9% of the world supply in 2010, falling from 25.3% in 2000. Of course phosphate rock is only the first stage of the process, and the CFPD producers do not actually sell phosphate rock (no phosphate rock is exported), rather, with the addition of sulfuric acid to make phosphoric acid, and then ammonia, two major phosphate fertilizers, DAP and MAP are manufactured. The US has retained a dominant share of more-or-less one quarter of the worlds supply of these products. In exports the US role is even more dominant: 31.7% of MAP (in nutrient content), 26.1% of DAP and 27.6% of combined MAP and DAP exports worldwide originate from the US. Only 9.1% of phosphoric acid is exported, it is instead retained in the US to be converted to fertilizer for export. A number of fertilizer plants in Louisiana and Texas do import rock; beginning in 2010 and 2011 large scale imports started arriving from Morocco and from the newly-opened Peruvian mine jointly owned by Mosaic. By 2010 imports accounted on 11% of rock reserves, up from 5.8% in 2000. This rock, that imported and that produced domestically is converted to fertilizer---FOR EXPORT. Almost half, 47.6% of the combined MAP-DAP nutrient tonnage | Included in summary response above. |

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| | | | produced in the US was exported in 2011. When compared to the 1.2% of global reserves held in the US it is clear that we are shipping our valuable phosphate resource abroad. Weisskoff concludes: Thus, the Florida advantage is due to low cost and historical location, access to ocean transportation, cheap energy, negligible taxes, and minimal land reclamation costs, The real cost to Florida society is the loss of first class farm land, the accumulation of toxic waste, and the potential destruction of the water downstream supply.' The USGS assembles regular and comprehensive data on world and US sources of phosphate. Its 2010 Minerals Yearbook and its most recent yearly report for 2011 are attached as Ex 29. Major worldwide sources include Morocco and Peru, which supply phosphate to the US, including to Mosaic. The 2011 report lists many stable countries with existing and expanding phosphate production, including Morocco, Australia, Canada, Peru. In fact world production is projected to increase 20% from 2011 to 2015, with the largest increase from Morocco. The world is awash in phosphate. | |
| 000000542-151 | Percy Angelo | Private Citizen | Further, as Weisskoff and the USGS publications make clear, an unfortunate result of the Corps/mining company alliance to mine as much phosphate as possible no matter what the environmental consequences is that US phosphate producers, with less than 1.9% of the worlds reserves, are nevertheless supplying almost half of the worlds phosphate fertilizers. We are shipping our valuable phosphate resources abroad. It is clear, once you look at the actual data, that the world does not need our phosphate, rather this depletion of our own supplies is being done entirely so that Mosaic and CF can make as much money as possible with these resources. Clearly it is attractive financially to operate the fertilizer plants-as noted above, every mine has associated fertilizer plants, while fertilizer plants can readily be operated without the mine. We know from FIPR and the DAEIS itself that phosphate reserves in the southern part of the CFPD, the area for which permits are now sought, are deeper and of less desirable quantity and quality, with more contamination from dolomite. An alternative which calls for less mining but continued fertilizer production with some imported phosphate is clearly feasible and should have been explored. | The importation of phosphate was considered and subsequently eliminated as it did not meet the project purpose and need as discussed in Chapter 2. Discussions of alternative approaches avoiding impacts to natural systems are discussed as part of a conceptual mitigation framework in Chapter 5. |

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| | | | Consideration of this alternative does not require extreme measures. Below we discuss the reasonable alternative of stepping back mining from rivers, streams and wetlands, thus allowing mining to continue without the severe impacts experienced in the past. Any shortfall of phosphate to supply fertilizer production can readily be made up with imported phosphate. Other companies are doing exactly that. Failure to consider such a reasonable compromise is inconsistent with NEPA. | |
| 000000542-179 | Percy Angelo | Private Citizen | Mosaic instructed the Corps to Maintain the Schedule' so that its permit applications would not be unreasonably delayed. Id. at 9. This explains the impossible time frame maintained by the Corps, and the many resulting mistakes. The Corps did what it was told. -Mosaic instructed the Corps to Use Existing Information.' Id. at 9-11. It then proceeded to tell the Corps which existing information' should be used, going so far as to provide reports summarizing the information it wanted used, and supplying new information itself where it felt the existing information was insufficient to make its point. Id at 11 (bay wetlands). In fact, the Appendix to its letter lists a number of new data assemblies which Mosaic wanted considered. As discussed above, the Corps complied, considering data supplied by Mosaic but rejecting any need to consider data from USGS, SWFWMD or data prepared at their urging. As noted above, it also left out data supplied by public commenters, including the Environmental Groups. -Mosaic instructed the Corps to include all of the claimed economic benefits of phosphate mining and provided its own report (new) and its own IMPLAN study (new) to support them. Id. at 12-13. It made no reference to consideration of the economic benefits of the environmental values which might be affected, and again, the Corps did exactly what it was told. Significantly, Mosaic went to some lengths to warn the Corps NOT to consider its business decisions, even though the USEPA economists had provided certain elements which should be considered in an EIS (provided by the Environmental Groups in their letter dated April 20, 2011 and by Percy Angelo in her letter dated April 19, 2011) and even though the entire purpose and need discussion, by Mosaic and the Corps, rests on the need to protect the miners economic expectations. Again, the Corps did what it was told, | The economic analysis was prepared by the USACE, independently of direction from Applicants and did not use EcoNorthwest to conduct the economic analysis. Most information was obtained/developed independently of the applicants or other stakeholders. Where the USACE's economics analysis relied on information related to permit applications and associated employment and compensation information that was provided by the applicants, the information was independently verified to the extent possible and was made available for review by interested parties. It is beyond the scope of this analysis to consider how the applicants make their business decisions. |

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| | | | parsing its obligations to consider economics when Mosaic wants them considered, but to ignore economics when Mosaic wants them ignored. The Corps in fact simply accepted an economic study prepared by a Mosaic contractor, EcoNorthwest, 3-138, abandoning any pretense that it is preparing the AEIS. As pointed out in earlier sections, the issues on which Mosaic instructed the Corps, and the Corps obeyed, are extremely damaging to the public and the environment. Mosaic basically instructed the Corps to exclude them from the analysis. The Corps agreement to do so demonstrates that the resulting draft is NOT an AEIS prepared by the Corps, as required by NEPA, but a Mosaic construction. It does not comply with the statute. | |
| 000000547-15 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Economic ramifications. Operating the four proposed and two of the foreseeable mines has been determined to result in a loss of agricultural production, and an increase in mining-related production over the extension of time the industry would be operating in the region. Within Manatee County, the operation of the Wingate East Mine Extension and Pine Level/Keys mines would directly result in 141 jobs per year, with positive differences in wages of $2.2 billion and output of $7.5 billion over a projected continuation of current activity (predominantly agriculture) on the unmined lands during the 50-year study period. Operation of the proposed Wingate East mine (in Manatee County) alone would result in $7 million/year in tax revenues to the state and county over the 28 years of mine life. It is estimated that for every $1 million paid in local severance and property taxes 13.8 jobs are created within the local government and 20 throughout the multi-county region. By 2050, mining would account for losses of 4% of citrus and pasture and 2% of row crop acreage that exist currently (in the five-county region). While farm employment and output are forecast to be less, higher economic activity due to mining, reclamation, shipping, and other mine-related activities, along with the secondary economic impacts they cause, will completely offset losses in agriculture. | Comment acknowledged. |
| 000000547-16 | Intergovern-mental Coordination & Review, Tampa | Regional Agency | Under Alternative 1 - No mining - the presumption is that existing mines will continue to operate until the reserves are depleted and reclamation is complete. In Manatee County the existing mines are expected to be exhausted within the | Comment acknowledged. |

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| | Bay Regional Planning Council, John M Meyer | | first ten years of analysis. Direct economic impacts have been estimated for the 40-year period. Output (from combined mining and agricultural production) will drop from over $633 million to about $68 million after the tenth year. Annual local government revenues will drop from $2.3 million to $600,000 because severance taxes will not be collected. Based on the economic analysis performed for this AEIS, (the analyzed phosphate mining scenarios) would have a positive, significant effect on the regional economy. In, addition, Table 3-20 (Page 3-137) appears to be inaccurate and should be replaced or more sufficiently documented. The Table claims that 31% of Hillsborough County jobs are attributed to the agricultural sector. Likewise, 41% of all Manatee County employment is also directly attributable to agriculture. Table 3-20 identifies an employment base of 41,657 jobs exist related to agriculture in Manatee County. | |
| 000000553-19 | Percy Angelo | Private Citizen | The use of foreign phosphate rock to feed the US fertilizer plants is not only not a burden, it is the norm. The real purpose of the CFPD fertilizer producers is to get their phosphate rock as cheaply as possible and use it to produce fertilizer which is sold at substantial margin in foreign markets. | Comment acknowledged. |
| 000000553-21 | Percy Angelo | Private Citizen | Weisskoff reports, based on the USGS and International Fertilizer Association data, that the US has 1.2% of world phosphate rock reserves but produced 14.9% of the world phosphate rock in 2010. The US has 27.6% of fertilizer exports worldwide. Almost half of the US produced fertilizer tonnage is shipped abroad. We are taking our very small percentage of world phosphate reserves, overproducing it and then shipping it abroad as fertilizer. | The consideration of fertilizer as an export product s outside the scope of this AEIS. Chapter 1 discusses the relative amounts of phosphate rock that are used and imported/exported in the US. |
| 000000553-22 | Percy Angelo | Private Citizen | When the CFPD phosphate companies use CFPD mined phosphate rock for their fertilizer production they obtain a substantial economic advantage. Mosaic has stated that it is the worlds low cost producer because of vertical integration, location, and scale. Vertical integration means chemical plants and gypstacks, location means Florida and scale means tens of thousands of acres in the CFPD. | Comment acknowledged. |

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| 000000553-23C | Percy Angelo | Private Citizen | Weisskoffs report also addresses the reason for this advantage, low Florida reclamation costs, low Florida taxes, cheap energy and shipping costs, and free allocation of large quantities of water for processing and for transportation of phosphate product. The real data show that this damage is entirely unnecessary to feed either the world or the US with phosphate fertilizer. It is necessary only to insure the CFPD mining companies the largest possible profit and a competitive advantage as they sell the US phosphate back into the world market as fertilizer. | Comment acknowledged. |
| 000000553-26 | Percy Angelo | Private Citizen | Beyond that, however, the above discussion of the economics underlying the premise of the Purpose and Need discussion in the DAEIS shows that it is simply wrong. It is bad policy, bad strategy and bad economics to destroy the Florida environment to flood the world with phosphate fertilizer produced at the lowest possible cost. Economics and the environment coincide in this analysis. The purpose and need must be to mine phosphate in a manner which protects the environment. It should also protect the value of the US phosphate resource. | The USACE is neither a proponent nor opponent of the four Applicants' Preferred alternatives to mine phosphate. The relationship between the USACE and Applicants' Purpose and Need is described in Chapter 1 of the Final AEIS. |
| 000000553-27 | Percy Angelo | Private Citizen | The DAEIS economic analysis is a Mosaic invention and is entirely insufficient.The Weisskoff analysis also reveals the extreme insufficiency of the so-called economic discussion in the DAEIS, Section 4.7 and Appendix F. The Mosaic sponsored analysis simply leaves out every cost of mining and comes up with mining benefits that are not supportable based on the actual data input to the model. All additional costs of mining, spills or Superfund cleanups or radon response, or public health impacts, for example, are also ignored. | Mosaic was not involved in the development of the methodology of the economic analysis and the analysis does address the economic impacts (positive and negative) of the proposed mines. The reason why impacts identified by the commenter are not explicitly addressed in the AEIS is explained in the study assumptions presented in Appendix H. |
| 000000553-28 | Percy Angelo | Private Citizen | In addition, in their Scoping Comments on April 20, 2011, pp. 21-22, the Environmental Groups urged the use of an analysis proposed by the USEPA and used at the PCS phosphate mine in North Carolina to address the cost practicability of mitigation methods. At the PCS mine the analysis found that the mine would continue to be extremely profitable, even applying the alternatives studied. | The North Carolina analysis involved the regulation of profits to the applicant, which is beyond the scope of this analysis. |
| 000000553-30 | Percy Angelo | Private Citizen | The data provided in the Environmental Group scoping comments showed that Mosaic, like PCS, is making a ton of money. The Corps reluctance to do a real economic analysis, and its acceptance of a Mosaic sponsored study, is | Economic analysis was prepared independently of the Applicants. The Applicants funded the study as appropriate under CEQ regulations through an independent 3rd Party |

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| | | | unacceptable under NEPA. | contractor but the direction for the study was by the USACE. |
| 000000553-35 | Percy Angelo | Private Citizen | Analysis of data from USGS and the International Fertilizer Association (IFA) reveals a picture of the changing US dominance in the international market for the major raw material and sale of the fertilizer products (See Table 1). Since Florida is the major source and supplier within the US, our discussion of the US exports and US imports refers almost entirely to the Florida-based industry. The other producers, located in North Carolina, Wyoming, Utah, Montana, and Louisiana, are oriented more entirely to the US domestic market.1The US has 1.2% of the world phosphate rock reserves2 but produced 14.9% of the world phosphate rock in 2010, having fallen from 25.3% in 2000 due to declining US output and the1 It is possible to check the exports from Tampa for these fertilizers and the imports of phosphate rock into Tampa. That would ascertain the degree to which Florida product goes abroad (from US Census of Trade, available on a Port basis) or goes on barges up the Mississippi River (Army Corps Waterways Census).2 Estimated in January 2012 by USGS (Table 1, line 1a)2increase in the output of other countries (see line 2a, cols 1-2 for percentages; and cols. 4-7 for absolute nutrient-equivalent tonnages.)But phosphate rock is only the first stage of the process. With the addition of sulfuric acid to make phosphoric acid and then ammonia, two major phosphate fertilizers, DAP and MAP, are manufactured. The US has retained a dominant share of more-or-less a quarter of the world's production of these three products (lines 3a through 6b, col. 2, for 2010), despite the fast-growing volumes in the global economy outside the US (cols 5 & 7 for MAP and DAP production).In exports, however, the role of the US is even more dominant. 31.7% of MAP (in nutrient content), 26.1% of DAP, and 27.6% of combined MAP and DAP exports worldwide originate in the US. (See lines 7-10, col. 2.) Only 9.1% of world phosphoric acid exports are from the US. (Line 11a.) The acid produced in the US is retained here and converted to fertilizer for export.The US exports no rock per se (line 14), but a number of fertilizer plants in Louisiana and Texas do import rock from foreign sources and, beginning in 2010 and 2011, large scale imports started arriving from Morocco and from the newly-opened Peruvian mine jointly owned by Mosaic. In 2010, 9.4% of | Comment acknowledged. |

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| | | | world rock trade went to the US (up from 7% a decade ago, see line 12a). By 2010, imports accounted for 11% of US rock consumption, almost double the 5.8% share in 2000. (See line 13a.) Thus, we have the US industry relying on domestic rock reserves and on marginal but growing tonnage of imported rock.To what use is the rock put? To fertilizer ....for export! By 2011, the US still exported a third of its total MAP production, down from 46% a decade earlier, and almost 60% of its DAP production, down from 62% in 2000. (See lines 14-15, cols. 1-2). Almost half (47.6%) of the combined MAP-DAP nutrient tonnage produced in the US was exported, down from a 56.9% share in 2000. (See line 17, cols. 1-2). | |
| 000000553-43 | Percy Angelo | Private Citizen | 6) 5In summary, the true With and Without scenarios should be between the GROWING agricultural economy without any new mines, and the LOSSES to the County from the removal of that growth in farm activity plus the GAINS from the new mines.7) Moreover, the agricultural sectors are undervalued in the AEIS-IMPLAN because they are partial and not comprehensive. The agricultural cluster is not just the isolated sectors of pasture, vegetables, and citrus. Bigger than both and the biggest single sector in the county in Original-IMPLAN is Sector 19, Services to Agriculture, with 2,026 jobs in 2009, compared to the 208 jobs in Mining. The Agriculture cluster which includes ag services and all the ag branches, totals 3,221 jobs, compared to the mining cluster's 211 jobs.8) So when 82,000 acres are taken out of agriculture, it is not only a reduction of the direct employment as computed by acreage and direct income generated by farming, but also the indirect losses of income and jobs in the cluster.Direct impacts refer to the spending on the mine or farm. Indirect impacts mean the material and labor inputs that need to be purchased to make the direct effective, such a fuel, fertilizer, pesticides, spare parts, machinery use, and labor. Induced impacts trace the spending of the all the workers from the direct and indirect impacts on food, housing, clothing, etc., and the income and jobs that their spending leads to.In the IMPLAN scheme, all these impacts, both negative and positive, take place instantly and simultaneously in the year 1, since it is a single year model. In reality, many of these linkages take years to play out, if at all, as much of the spending leaves the county | Included in summary response above. |

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| | | | and has no effect whatsoever. | |
| 000000560-1 | Florida Gulf Coast Building & Construction Trades Council, William Dever | Union | For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS. | Comment acknowledged. |
| 000000561-1 | Joy Global, Shawn Hasley | Company | Joy Global supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-term economic consequences reflected in the Corps' recently released draft AEIS | Comment acknowledged. |
| 000000562-1 | McDonald Construction Corp, Randy Johnson | Company | McDonald Construction Corporation supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long-¬term economic consequences reflected in the Corps' recently released draft AEIS. | Comment acknowledged. |
| 000000563-1 | Tampa Armature Works, Inc, James Turner | Company | Tampa Armature Works, Inc. (TAW) supports the permit applications for future mining in the Central Florida Phosphate District currently under consideration by the U.S. Army Corps of Engineers. For communities like ours, where businesses and residents have helped build and support phosphate's place as a major regional economic engine, approval of the pending permits is a critical step in avoiding long--term economic consequences reflected in the Corps' recently released draft AEIS. | Comment acknowledged. |
| **ECON - 4** | | | **A number of comments addressed the potential economic impacts if reductions in groundwater or surface water flows were to affect water supplies for potable uses in the region.** | **The results of surface water and groundwater modeling and water quality impact analyses conducted for this AEIS are discussed in Appendices G, F, and D, respectively, and in the resource sections of Chapter 4. The potential impacts are reduced after mitigation and are not significant. Therefore, the economic analysis did not need to address these impacts.** |

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| 000000351-12 | Debra L Highsmith | Private Citizen | Clean water drives our economy. The economics section fails to consider a complete and inclusive economic analysis. Alternative economic analyses have been provided to the Corps and should be included in the final document. | Included in summary response above. |
| 000000371-23A | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The economic analysis does not include any estimates of the cost to water suppliers to construct additional storage to take higher flows during wetter periods to account for dry-season loses by mining. | Included in summary response above. |
| 000000371-81A | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | They have not only environmental impacts, but also potential economic impacts for existing /future public utilities using surface water supplies in the CFPD and such impacts needs to be included in the AEIS. | Included in summary response above. |
| **ECON - Individual Comments** | | | | |
| 542-207 | Weiskoff as provided by Percy Angelo | Private Citizen | The economic analysis omits consideration of the international aspects of the Florida phosphate industry, which I find to be much greater than commonly thought. The conventional impression is that Florida phosphates are used primarily by US farmers, with some sales abroad. But the statistics reveal the opposite: the Florida industry is primarily an export platform for world sales of fertilizers made in Florida from primarily Florida (and increasingly imported) rock and from currently inexpensive ammonia and sulfuric acid. | The focus of the analysis was on direct and indirect economic impacts associated with mining and benefication. The use of the phosphate after beneficiation for production of fertilizer, the location of fertilizer plants, other users of the phosphate rock, or endpoint of sale are not factors that influence the AEIS economic analysis and are not included here. |
| 542-208 | Weiskoff as provided by Percy Angelo | Private Citizen | In short, the Florida phosphate industry is export-oriented but built on a base of historically-owned, extensive holdings of prime Florida farmland passed down and consolidated into two surviving companies taking advantage of the favorable physical infrastructure – high voltage power lines, railways and roads and the world's largest bulk-handling fertilizer port (Tampa) nearby, Now are all aided by the recent fall in ammonia prices. In addition, the Florida industry is aided by a long-standing practice of not being charged for the water it pulls up from the ground, other than the energy to pump it up. This puts it at a great advantage in comparison to the water-scarce regions of the western states, and the mines located in the Moroccan and Peruvian deserts. | Comment noted. The practice in the eastern United States is that anyone with a water use permit is not charged for the water that they consume. This applies to agricultural, mining, and urban uses. All these customers must pay for the cost to transport and treat the water for their use, but are not charged for the water itself. It is beyond the scope of this AEIS to consider changes to this practice. |

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| 542-209 | Weiskoff as provided by Percy Angelo | Private Citizen | Thus, the Florida advantage is due to low cost and historical location, access to ocean transportation, cheap energy, negligible taxes, high quality rock, low overburden, plentiful and virtually free water, and minimal land reclamation costs. The real cost to Florida society is the loss of first class farm land, depletion of the aquifer, the accumulation of toxic waste, and the potential destruction of the downstream water supply. | Comment noted. Reclamation costs are in accordance with the amount required to be set aside for this purpose by state law. Similarly, taxes are set by state and local government, The impacts of the Alternatives on the water resources, farmland and the ecosystem are described in Chapter 4 of the AEIS, as are impacts associated with wastes. Mitigation activities are discussed in Chapter 5. After mitigation the impacts of the mines on the water resources and ecosystem were determined to be minor. The accumulation of toxic waste appears to be a reference to phosphogypsum stacks, which are a waste byproduct of the production of fertilizer, and not related to mining or beneficiation. Phosphogympsum stacks are considered in the cumulative impact analysis along with other non-mining industrial and development activities and are otherwise outside the scope of the AEIS, as explained in Chapter 1. |
| 542-210 | Weiskoff as provided by Percy Angelo | Private Citizen | (a) REMI (Regional Economic Modeling, Inc) is an alternative, or more accurately, a complementary model that is "made to order" from www.remi.com for specified counties or regions. But REMI is designed as a "growth model" whereas IMPLAN is a single snapshot of a county. REMI is movie-picture which estimates the equations and relationships on the basis of historical data. These equations are then used to forecast 35 years into the future under different conditions and scenarios, such as the addition of a new sector and the reduction of an existing sector. Whereas the IMPLAN system costs as little as $350 per county, the REMI model, which models the ENTIRE regional economy, including labor, migration, population, savings, investment, and many macro-economic variables, can cost tens of thousands of dollars for single year license for several county models. For reasons of economy, then, most feasibility studies prefer IMPLAN for a single-year estimate. They then adapt this estimate for Year 1 to all the later years in the study. | Comment noted. Appendix J presents a comparison of economic models that could be used for estimating the indirect and induced impacts of the direct impacts of the Alternatives. The rationale for selecting IMPLAN for this analysis is also discussed in Appendix H Economic Analysis |
| 542-211 | Weiskoff as provided by Percy Angelo | Private Citizen | The use of IMPLAN to make projections without correcting for many important factors is totally inappropriate for a number of reasons:<br>1) IMPLAN is a one-year cross-section of each county's economy, for example, 2009 for year 1. But the AEIS-IMPLAN study applies the same "model," this, the same "frozen" | Comment noted. The focus of this analysis is not on the change in production on agricultural lands over the study period, but rather the effects of the No Action Alternative and the Action Alternatives on production of phosphate and agricultural production within the geographic scope of the analysis. While there may be some change in agricultural and phosphate production over time that is not the focus of this |

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| | | | production scheme for each county for all the years through Year 50, except for changes in mining and some agricultural sectors. It then computes the output, discounts the future years back to the present, and compares the "with" and "without" project alternatives. But the economy will not be FROZEN in time for the fifty years! The technical coefficients – that is, the connection between the sectors and the magnitudes of the inputs for each sector – are changing. We can estimate the annual rates of change of these variables, and we then should apply them to the growing or "aging" economy. To FREEZE the Year 1 economy from 2012 to 2062 (50 years) tends to undervalue the dynamic sectors which is the case of agriculture and favors the more technologically-fixed and capital-intensive sectors, like mining | analysis. Any reasonable anticipated change in agricultural or phosphate production per acre over the study period is not anticipated to influence the relative magnitudes of the projected economic results. |
| 542-212 | Weiskoff as provided by Percy Angelo | Private Citizen | 2) Agriculture, according to the 2002 and 2007 US Agricultural Censuses, increased in value by 40% in Hardee County over this period in terms of the sales of crops and livestock despite a loss of 19% of acreage. How is it possible that fewer farms and less acreage created more value? The answer lies in higher farm prices, greater productivity and a shift to the more lucrative activities. Thus, the AEIS-IMPLAN model, which "froze" the agricultural sectors and their technologies, should have, in fact, modified them to allow for these dynamic changes that are already in motion. AEIS-IMPLAN projects stability and then a DECLINE in agriculture over time in the base case scenarios, and this is inconsistent with what we know is likely to occur. The USDA publishes "Outlooks" for all agricultural branches, and these should have been consulted (See Weisskoff, Economics of Everglades Restoration, Chapter 12, for details on how this was done.) The US Census publishes county accounts and projections of income in the Regional Economic Information System (REIS) for farm income. AEIS-IMPLAN could have used these to estimate the indirect inputs into farm sectors, such as citrus, livestock, and vegetables and also to estimate the rate of growth of output & income. Once applied to IMPLAN, this would have added flexibility and reality to an otherwise "frozen" AEIS-IMPLAN through time. | Agricultural commodities as well as phosphate tend to have prices that fluctuate significantly from year to year. Most of the change in value of these agricultural commodities over this period, was likely due to price fluctuations, and to a much lesser extent, increases in productivity or changes in crops produced, which tend to change much more slowly than prices for these commodities. For example, the report: Florida Agriculture by the Numbers for 2012, published by the Florida Department of Agriculture and Consumer Services, reports that the price per 100 pounds of cattle increased from $47.90 in 2002 to $76.40, an increase of 59%. Similarly, the report indicates that the price per box of all oranges in the state increased from $3.47 to $10.28 over the same period, an increase of 196%. At the same time production of oranges per acre declined from 392 boxes per acre to 271. While most of this change was likely due to weather conditions, we cite these statistics just to highlight the perils of relying on a trajectory for this type of analysis, especially for a long-term projection. Contrary to the statement that the AEIS is projecting that agricultural production is stable and then declines under the No Action Alternative, the projections anticipate as land that is currently being mined is reclaimed, the amount of land used for agricultural production in the No Action Alternatives increases over time, while the productivity per acre is held constant. Comments relating to USDA publications, which were reviewed, and Regional Economic Information System are noted. As noted above, the adjustments proposed to the |

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| | | | | agricultural analysis would not have a material impact on the conclusions of this analysis. |
| 542-213 | Weiskoff as provided by Percy Angelo | Private Citizen | 3) All this is by way of explaining how AEIS-IMPLAN minimizes or omits the losses to the total farm sector. The text of the AEIS-IMPLAN study but not the growth of these sectors that was already occurring. Most of the "mined" land makes its reappearance later as reclaimed land, and then is put back into full production in later years. | As mentioned above, any losses resulting from not accounting for forecast changes in the productivity of the agricultural sector over the 50 year study period would not be significant for purposes of this analysis. The primary impacts of the mining alternatives on agricultural activity will be due to these lands being taken out of production during the period when the land is being mined or reclaimed. Changes to agricultural productivity will not significantly affect the magnitude of the results of this analysis. |
| 542-214 | | Private Citizen | The use of IMPLAN to make projections without correcting for many important factors is totally inappropriate for a number of reasons:<br>4) Another problem: the AEIS-IMPLAN lists "row crops" but there are no row crops in Hardee County, for example. Perhaps the authors meant "vegetables & melons" which is an important sector in Hardee County and the other counties in the region. | The reference to row crops in the Draft AEIS has been corrected to "vegetables and melons" as Professor Weisskoff mentions. This has been corrected for the Final AEIS. |
| 542-215 | Weiskoff as provided by Percy Angelo | Private Citizen | 5) We also know that all the land taken into mining cannot possibly be "restored" due to the clay pits and lakes that will be carved out of the mined land. One estimate is that 25% of the land will not be available for reclamation. But in the Appendix F Tables, land in agriculture (pasture, row cops, and citrus) is given as 84,200 acres in Hardee county to be mined with the full alternative of 7 mines, and over the years 81,100 acres will be reclaimed, a loss of only 3.6%. Nor do we know the QUALITY and PRODUCTIVENESS of the reclaimed land. | Under Florida state law, all of the land that is mined, whether it is currently used for agriculture or other uses, must be reclaimed in accordance with state requirements. The current land use on each Applicant Preferred mine site was taken from a GIS analysis of the current land uses on those mine sites, and from property tax assessor's records. The post-reclamation land use plan for each site was the basis for the portion of the land on each Applicant Preferred Alternative that was returned to agricultural production. While a portion of the reclaimed land will be used for clay settling areas, the portion of the land on the mine site that is devoted to agricultural use after reclamation is in each case approximately equal to the land devoted to agricultural use prior to mining. All of the land returned to agricultural production was assumed to be used for pasture. A Bureau of Mines report that investigated the productivity of reclaimed lands reported that they can be as productive as native lands. So we have assumed no change in productivity between the lands before and after mining. |

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| 542-216 | Weiskoff as provided by Percy Angelo | Private Citizen | 6) In summary, the true "With" and "Without" scenarios should be between the GROWING agricultural economy without any new mines, and the LOSSES to the County from the removal of that growth in farm activity plus the GAINS from the new mines. | The economic analysis compares the results of the No Action Alternative with the Applicant Preferred and Reasonably Foreseeable Alternatives. The agricultural growth referred to in Professor Weisskoff's comment that would be pertinent to this analysis, is his assumed increase in production per acre for the agricultural lands on the mine sites that would happen over time. These impacts would have a relatively small impact on the net present value of the loss in agricultural production on these lands, and would not affect the overall conclusions of the economic analysis. While there have been increases in productivity in the past, which does not mean that similar increases will occur in the future. |
| 542-217 | Weiskoff as provided by Percy Angelo | Private Citizen | 7) Moreover, the agricultural sectors are undervalued in the AEIS-IMPLAN because they are partial and not comprehensive. The agricultural "cluster" is not just the isolated sectors of pasture, vegetables, and citrus. Bigger than both and the biggest single sector in the county in Original-IMPLAN is Sector 19, "Services to Agriculture," with 2,026 jobs in 2009, compared to the 208 jobs in Mining. The "Agriculture cluster" which includes ag services and all the ag branches, totals 3,221 jobs, compared to the mining cluster's 211 jobs. | The direct impacts of the Alternatives are on the production of citrus, vegetables and melons, and pasture. The Agricultural Services are included in the IMPLAN analysis as indirect impacts. |
| 542-218 | Weiskoff as provided by Percy Angelo | Private Citizen | 8) So when 82,000 acres are taken out of agriculture, it is not only a reduction of the direct employment as computed by acreage and direct income generated by farming, but also the indirect losses of income and jobs in the "cluster." | Comment noted. While it is projected that about 82,000 acres will be used for mining, only approximately 40 percent of this land is currently in agricultural use. The Draft AEIS overstated the amount of land currently being used for agriculture. This has been corrected for the Final AEIS. It also should be noted, that only a portion of the agricultural land will be taken out of agricultural use at any given time. |
| 542-219 | Weiskoff as provided by Percy Angelo | Private Citizen | Direct" impacts refer to the spending on the mine or farm. "Indirect" impacts mean the material and labor inputs that need to be purchased to make the "direct" effective, such a fuel, fertilizer, pesticides, spare parts, machinery use, and labor. "Induced" impacts trace the spending of the all the workers from the direct and indirect impacts on food, housing, clothing, etc., and the income and jobs that *their* spending leads to. | Agreed. IMPLAN accounts for these indirect and induced impacts as well as the direct effects. |

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| 542-220 | Weiskoff as provided by Percy Angelo | Private Citizen | In the IMPLAN scheme, all these impacts, both negative and positive, take place instantly and simultaneously in the year 1, since it is a single year model. In reality, many of these "linkages" take years to play out, if at all, as much of the "spending" leaves the county and has no effect whatsoever. | Comment noted. The portion of the spending that leaves the county is accounted for in the IMPLAN model through regional purchase coefficients that indicate the portion of the demand in each sector that is satisfied by sales in the county or region. Thus leakages out of the region for both phosphate and agriculture are accounted for in the Final AEIS analysis. There are a number of existing mines operating in the region, and the Applicants' Preferred and Reasonably Foreseeable mines would allow these activities to continue, and thus represent a stabilizing influence on the local economy that would otherwise experience a significant drop in employment and income. Phosphate mines are operated at a relatively constant or steady pace over their expected lives, which for the Applicants' Preferred Alternatives range from between 12 to 36 years. Thus, the average annual impacts will reflect a typical year in the life of a mine. |
| 542-221 | Weiskoff as provided by Percy Angelo | Private Citizen | 1) The newest mining technologies also are larger-scale, more automated, and more capital-intensive, leading to fewer jobs and more machinery in the future. The inputs –fuel, chemicals, machinery repair, pipes, pump parts, etc.—come from outside the county and the profits (which are two-thirds the value added) are sent to the home office and reinvested elsewhere (for example, to purchase the new mine in Peru). Only a third of the value added goes to labor, and if the workers live in Hardee County, then it is their spending that will have the "induced" impact. The share of the severance taxes remitted by the companies to the state and then back to the county government will also exert impact, but this amounts to 2.4% of the current phosphate rock price. Thus, the share of value-added and even of labor income that will remain in Hardee County as a result of increased mining remains unknown. | Comment noted. The observation that new technologies, which are more automated and capital intensive, lead to fewer jobs and more machinery applies equally well to mining and agriculture. The purchases by the phosphate industry and agriculture in the region are accounted for by regional purchase coefficients in the IMPLAN model, as are the "leakages" or purchases of goods and services from outside of the region. In addition to severance taxes, property tax revenues and sales taxes that are generated by the use of the mine sites for phosphate production and agricultural operations are part of the value added that is returned to the state and local governments. However, what can be concluded is that the proposed action will have a positive impact on the local economy and on the fiscal condition of local governments. |
| 542-222 | Weiskoff as provided by Percy Angelo | Private Citizen | 1) Not so with agriculture. Both workers and owners live in the county and more of their value is recycled into local business. This all will disappear when large scale mining clears agriculture, leaving as ghost-towns and historic relics of the old main streets, such as is seen now in Bowling Green, Ft. Meade, and possibly Wauchula in the future, as the permitted mine extend right to the northern and western edges of the town. | Comment noted. Most agri-businesses are now corporations rather than small family farms, and while some owners may continue to live in the same county as the farm, others do not. It also needs to be recognized that these mines represent only a small portion of the total agricultural lands in each county, and that the land is only taken out of agricultural production for a period of time while it is being mined and reclaimed. After that time approximately the same area of land on each mine site that was used for agriculture prior to mining, is |

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| | | | | expected to be returned to agriculture. Thus the impacts to agricultural activities are expected to limited and temporary in nature. |
| 542-223 | Weiskoff as provided by Percy Angelo | Private Citizen | 1) Prof. Weisskoff's own economic studies using the Original IMPLAN 2009 data find that the output multiplier for agricultural output is 1.254, compared to the mining output multiplier of 1.176, both of which include direct, indirect, and induced effects. The output multiplier is the mathematical summary of the impact of spending x-dollars on a sector, for example, citrus: $1,000 direct spending on the Agricultural Cluster, results in $1,254 output: $1,000 for the original spending, and $254 from the indirect (i.e. inputs like fertilizers) and induced impacts (the spending of the fertilizer workers). Mining has fewer linkages, fewer inputs, less wages to be spend locally and more profits that leave the region. Mining's multiplier is 1.176. Thus, Agriculture's output multiplier is 6.6% greater than that of mining. | Comment noted. These differences in multipliers, although interesting, do not have a material effect on the conclusions related to the positive impact of the Applicant Preferred and reasonably foreseeable alternatives on the regional economy. We do not know what region Professor Weisskoff's multipliers apply to, so we cannot compare them to our analysis. However, assuming that they are correct, the total impacts on output, employment, and incomes of the mining activities are far greater than the impact of agriculture on these mining sites. The total impacts of the mining are far greater, as its direct impacts are in the billions of dollars, compared to agriculture which is in the millions. So the difference in direct impacts far outweighs the differences in multipliers that Professor Weisskoff cites. |
| 542-224 | Weiskoff as provided by Percy Angelo | Private Citizen | But a million dollars of output in one industry may create more jobs than a million dollars output in another. This "job-multiplier" then is a measure of the labor-intensity of a sector, and the difference between employment multipliers is even greater than the difference between output multipliers. For example, the ag employment multiplier is 12.5 jobs per million dollars, and the mining multiplier is 4.60 jobs per million dollars. The ag job multiplier is 2.2 times higher than the mining multiplier. And this does not take account of of the part-time and seasonal works that prepare the land and harvest the crops, and, for the most part, spend their earnings locally on food, rent, and necessities, and remit another share out of the country. | Comment noted. These differences in multipliers, although interesting, do not have a material effect on the conclusions related to the positive impact of the Applicant Preferred and reasonably foreseeable alternatives on the regional economy. We do not know what region Professor Weisskoff's multipliers apply to, so we cannot compare them to our analysis. However, assuming that they are correct, the total impacts on output, employment, and incomes of the mining activities are far greater than the impact of agriculture on these mining sites. The total impacts of the mining are far greater, as its direct impacts are in the billions of dollars, compared to agriculture which is in the millions. So the difference in direct impacts far outweighs the differences in multipliers that Professor Weisskoff cites. |
| 542-225 | Weiskoff as provided by Percy Angelo | Private Citizen | The correct understanding of these sectors can be summarized as follows: mining creates greater value, especially in terms of output and property value (i.e. profits), while agriculture creates both labor value (in ag services) and property value (profits) in farming and many more jobs. And this is not counting seasonal and part-time farm work, the earnings of which are split between local spending and remittances sent abroad by migrants. | While agriculture may provide more jobs per million dollars of output, the projected output per decade from the mining operations is in the billions of dollars, compared with agriculture which is in the millions. Thus the employment from mining is actually significantly greater than the employment from agriculture on the mining sites. |

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| 542-226 | Weiskoff as provided by Percy Angelo | Private Citizen | 1) The correct procedure for a regional economic analysis is to apply a regional economic model of the counties in which THE ENTIRE ECONOMY IS GROWING IN ITS HISTORIC TRAJECTORY, and not "frozen" in year one by a set of arbitrary assumptions. Then the correct mining employment must be calculated as the acreage is removed from agricultural production. The Ona mine study (Grace Johns, 2003 and 2005) commissioned by the Hardee County Commissioners, estimated a net gain of only 71 jobs if a mine plus a beneficiation plant were built and a net loss of 111 jobs if mining is undertaken without a beneficiation plant. The South Ft. Meade Extension Economic Study done for Lampl Herbert Consultants and Hardee County (ECONorthwest, 2008) estimated a peak average of 100 new jobs per year from the new mine, with no calculation done for lost farm jobs or services. In 2009, there were in Hardee County 208 mining jobs according to Original-IMPLAN data. The Federal Mining a Health and Safety Administration data (www.mhsa.gov), and which lists all phosphate mines by county, corroborates that number. Moreover, the federal data also indicates 204 mining workers in Hardee county in 2011, and 1,284 workers in 2011 for all workers (including administration and office workers) in the three So. Florida counties (Polk, Manatee, and Hardee) in the AEIS study. As the existing mines close, it is likely that the new mines will provide replacement jobs and fewer new jobs than indicated in the AEIS-IMPLAN projections. | Basing this economic analysis on a trajectory, as suggested, for cyclical products such as phosphate and agriculture, is not warranted. Potential changes in productivity in either or both sectors are generally small incremental changes that occur over an extended period of time, which would not affect the overall conclusions of this analysis. The results of this analysis are not directly comparable to the other studies sited, as those studies had a number of differing assumptions from this analysis. As mentioned in the FAEIS, the employment associated with the Applicant Preferred and Reasonably Foreseeable Alternatives are generally not new jobs, but rather replacements for jobs associated with mines that are currently operating, but expected to close in the next 3 decades. As such the estimated jobs associated with the Applicants' Preferred and Reasonably Foreseeable mines are jobs that would be saved, that would be lost under the No Action Alternative. As required by NEPA, the effect of the Applicants' Preferred Alternatives and the associated jobs are evaluated relative to the No Action Alternative. |
| 542-227 | Weiskoff as provided by Percy Angelo | Private Citizen | 1) The AEIS-IMPLAN Work Sheets do not show where the new employment will come from or how it is created. For Hardee County, for example, the base case gives employment of 1,527 in the "without" and 2,221 "with" the Ona Mine, creating a net gain of 694 new jobs. This is VERY different from the detailed Grace Jones study that saw, at most, 71 new jobs with the beneficiation plant! Her study is very meticulous with respect to the land use accounting and specification of the agricultural losses. | The findings of the AEIS analysis are not directly comparable to the referenced study performed by Hazen & Sawyer (H&S), due to the differences in assumptions and what was being measured. For example, the H&S analysis assumed that approximately 28 percent of the Ona mine site would be developed for housing over a 50-year period under the baseline analysis, and none of it would be used for housing under the "with mining" analysis. This significantly affected the results of the H&S analysis in terms of employment and other impacts. The economic analysis in the Final AEIS does not assume that any of the mine sites are developed for housing under either the No Action or under the Applicants' Preferred or Reasonably Foreseeable Alternatives. The Final AEIS also includes mining and agricultural activities on the |

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| | | | | mines currently operating in the County, as well as the agricultural activities on the other Applicants' Preferred Mine (South Pasture Extension) and Reasonably Foreseeable Pioneer tract, that are not included in the H&S analysis. |
| 542-228 | Weiskoff as provided by Percy Angelo | Private Citizen | Weisskoff's Original-IMPLAN 2009 data also contradicts the importance of the sectors compared to the AEIS-IMPLAN worksheets: The AEIS Data Entry Worksheets for Hardee County with the S. Pasture Extension give the following for years 1-10: (Note: Table in Weiskoff's Report not repeated here) | We do not have access to the background or assumptions that underlie Professor Weisskoff's "original IMPLAN values", but note that the AEIS IMPLAN values that Weisskoff is comparing his results the 1st decade of the AEIS analysis for the South Pasture Extension Alternative. The South Pasture Extension, however, is not expected to begin operations until the 2nd decade of the AEIS analysis. Thus, there would not be any mining associated with the South Pasture Extension in the AEIS figures shown. The mining values shown for the first decade in the AEIS are for the mines that are currently operating in the County: Four Corners, South Fort Meade, and South Pasture. The agricultural production figures include agricultural activities on these existing operating mine sites, and the agricultural uses on the South Pasture Extension, Ona, and Pioneer Tract sites. |
| 542-229 | Weiskoff as provided by Percy Angelo | Private Citizen | 14) The AEIS numbers, their relationships with each other, the low value placed on agriculture, the exaggerated claims attributed to the mining output, value, salaries, local spending, and employment are not credible and they are not verified by independent sources outside the industry itself. Moreover, a schedule of the cost of land reclamation, as it relates to yield of the reclaimed land, is not provided. The potential yield of reclaimed land should be known in order to evaluate the long-term impact of the mines, since the quality of the reclaimed lands is inferior to the pre-mined lands. | The methodology and assumptions used to conduct the analysis are documented in the Final AEIS. The IMPLAN model, which was used to support the economic analysis, has been used for these types of economic impact analyses by government agencies, universities, and others, and is widely accepted for this purpose. As described in Appendix J Impact Evaluation Methods of the Final AEIS, reclamation activities are required by state law to be completed within 8 years of the end of mining operations. We have assumed that the end of mining operations would be within 4 years of the end of rock production. Reclamation cost of $8,015 per acre was used from the Bureau of Mining and Minerals Regulation: Mandatory Reclamation Financial Assurance Requirement Memorandum of Agreement (MOA) Contouring Not Complete, for 2008 (Florida Department of Environmental Protection [FDEP], updated December 13, 2012). A Bureau of Mines report that investigated the productivity of reclaimed lands reported that they can be as productive as native lands. So we have assumed no change in productivity between the lands before and after mining. |

## Economics

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| 542-230 | Weiskoff as provided by Percy Angelo | Private Citizen | 1) The REMI (Regional Economic Modeling Inc) see http://www.remi.com/ is the appropriate economic model for this kind of growth situation, not IMPLAN. REMI should be used for the inner three counties (Manatee, Hardee, DeSoto), "with" and "without" the mines; and then the outer 5 counties should be added to measure the impact in the broader region (Polk, Hillsborough, Sarasota, Charlotte, Lee). REMI gives the big picture in a macro-dynamic sense: how the entire base line economy will look in the next 35-50 years. The REMI model can then be supplemented by the detailed breakdowns of the agricultural sectors and by specifying mining exports. Once the REMI gives the broad and realistic picture of the major sectors of the economy, then a detailed sub-model from IMPLAN can be appended or hybridized to ascertain the proportions of the different ag sectors, for example, citrus, pasture, and vegetables (wrongly identified in the AEIS worksheets as "rowcrops"). The REMI model should then be supplemented for future years by REIS data and USDA Outlook data for the prices of the crops which require special market studies to make reasonable forecasts. Putting this information into a dynamic, realistic regional growth model will yield more reliable estimates of the impacts of the new mines. In conclusion, the economic analysis uses an inappropriate model (IMPLAN) in a robot-like way to walk into the future by freezing the present technologies and by not taking into account the full cost of displacing the dynamic and growing agricultural sectors, especially agricultural services, and their linkages. Instead, the model used in AEIS-IMPLAN over-values the relatively short period of high-valued output from mining, an industry with very little local connectivity compared to the agricultural activities it displaces. | As discussed Appendix J of the Final AEIS, REMI is a significantly more complex model that includes an input/output default option, but offers the advantage of being dynamic, with an analysis that can consider changes in the economy over time. This can also be a disadvantage as the accuracy of the projections will depend on the underlying econometric model, which is not straightforward for the user to verify or for others to replicate. For situations where the model will be used for multiple years and can be refined over time, such as for analyzing tax policies by states, these disadvantages can be overcome. However, for an analysis such as this AEIS, overcoming these issues is much more difficult. The complexity of the model and associated analysis also makes explaining any resulting analysis to decision makers and public more challenging.<br><br>The focus of the economic analysis for the CFPD Final AEIS is on the direct, indirect and induced impacts of a change in primarily just 2 sectors—phosphate mining and agriculture. IMPLAN was selected to perform the analysis for these reasons, as well as the study area's location in a primarily rural economy, which is not changing rapidly. In addition, the Applicants' Preferred Alternatives would contribute to sustaining employment in the industry and preventing the region from experiencing a significant contraction relative to the No Action Alternative. Thus, it is not anticipated that the alternatives will lead to changes in the economic structure of this region over time, a scenario that may benefit from a dynamic modeling approach. Moreover, the increases in value added to the mining sector dwarf any reductions in value added to the agricultural sector and this result would not be affected by a credible dynamic approach. |

## Economics

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **EJ-1** | | | **Multiple comments questioned the adequacy of the environmental justice review in Hardee, DeSoto, and Manatee counties. The commenters requested that additional potential EJ populations within those counties be identified on a county-wide basis rather than just areas proposed for mining, and examined relative to the eight-county study area. The commenters requested consideration of specific minority populations groups.** | **Section 3.3.7 describes the approach used to identify populations at risk that warranted environmental justice consideration. Potential EJ populations were examined at a county and census block level. Section 4.7 describes how potential environmental justice concerns were addressed by the AEIS review.** |
| 000000393-27 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the environmental justice review. Screening techniques focus on block group populations of over 50% minority or 20% within poverty intersecting site alternative boundaries. Though that technique is suitable for infrastructure such as roadways to identify potentially affected communities, the impacts of phosphate mining are as much from changes in employment opportunities as physical proximity. Economic strength rankings can be found at www.policom.com/PDFs/2011EconomicStrengthsmallfilesize.pdf. Wauchula is ranked 542 of 576 micropolitan statistical areas, the lowest in Florida. Arcadia is ranked 479, the second lowest in Florida. A review of http://quickfacts.census.gov/qfd/states/12000.html suggests that Hardee and Desoto have a marked difference in educational attainment compared with Florida as a whole. CHNEP counts all of our activities in Hardee and DeSoto as contributing to environmental justice (EJ) communities. Therefore, CHNEP requests that an analysis of the economies of these two counties [Hardee and DeSoto] be considered as a whole, rather than as the footprint of the mine alternatives. | Included in summary response above. |
| 000000542-145A | Percy Angelo | Private Citizen | The DAEIS Fails to Consider Environmental Justice The AEIS must discuss environmental justice, and the DAEIS has a section which purports to do that, but it ignores significant, and quite evident environmental justice issues. At 4-151 and 153 the DAEIS identifies census tract 970300 as containing both a higher minority population and higher levels below the poverty rate. The map at 4-153 suggests that this tract is at R-2, in close proximity to Ona, Wingate East and the South Pasture Extension and smack dab in the middle of the mining area. It appears the population of 970300 is likely | Included in summary response above. |

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| | | | farmworkers, 3-136, who will be displaced from their jobs from the mining expansion, as well as being affected at their homes. It is clear that there is little likelihood that the jobs which the DAEIS claims will be created by mining will benefit this population. Other data in the DAEIS mirrors these concerns, on a larger scale. Chapter 3-127 shows the population breakdown for Hardee and Desoto Counties, in contrast to the other counties impacted. Hardee and Desoto have over 26% living under the poverty level, easily meeting the CEQ definition of over 20%. Desoto has 30% Hispanic, 13% Black or African American and almost 18% Other, for a total minority population of almost 44%. 3-132 to 133. Hardee County has 7% Black or African American, 43% Hispanic and 17% Other for a total minority population of 52%. | |
| 000000542-146A | Percy Angelo | Private Citizen | Further, Hardee and Desoto are dominated by agricultural employment, 95 and 84% respectively. 3-136. We have previously provided studies demonstrating the economic impact of agriculture on Hardee and Desoto Counties and the consequences of loss of those agricultural jobs. While the loss to the economy as a whole is important, the particular loss to the farmworker population, with its substantial component of minority populations and populations below the poverty line, demonstrates that the proposal will have a disparate impact, violating environmental justice standards. | Included in summary response above. |
| 000000542-204B | Percy Angelo | Private Citizen | Q. The DAEIS Fails to Consider Environmental Justice p. 41 | Included in summary response above. |
| **Environmental Justice - Individual Comments** | | | | |
| 000000365-8 | Carol Mahler | Private Citizen | Finally, in Section 3.3.7.3 Demographics and Environmental Justice, the definition of the environmental justice is the fair treatment of people of all races, income, and cultures with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (lines 2-3, p. 3-132). The demographics and general area of residency of "minority" populations are summarized for DeSoto, Hardee, and Manatee counties, but no effort is given to understanding the effect of the mines on families who continue to live on property their families originally homesteaded in the late nineteenth and early twentieth centuries. Regardless of their level of prosperity, these heritage families are recognized and appreciated for their | Comment acknowledged. The environmental justice analysis is consistent with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and follows the CEQ guidelines that define "minority". The "minority" definition includes: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not Hispanic origin; or Hispanic. The heritage families may already be counted in one of these "minority" populations. |

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| | | | special contributions by the Florida Department of Agricultures Century Pioneer Family Farm Program (www.florida-agriculture.com). | |
| 000000542-145B | Percy Angelo | Private Citizen | Id. (Note that the graph at 3-133 appears to have a consistent error in that the percentages of white populations, added to the minority populations, are well over 100%). | The graph on Page 3-133 was reviewed and adjusted as necessary. |
| 000000542-146B | Percy Angelo | Private Citizen | Finally, the Florida Institute for Neurological Research (FINR) is located in Hardee County. This institute, which cares for those with neurological disabilities, employs some 500 people and performs an extremely vital service. Management believes that mining nearby, with noise, dust, and disruption will be extremely damaging to its patients and has sued the mining company. Disruption of this disabled population also violates environmental justice standards. | Chapter 4 describes how public health issues such as noise and dust were considered in the Final AEIS. It is the understanding of the USACE that the specific issues identified in this comment were addressed at the county level, and through discussions between the commenter and CF Industries. |
| **Demographic - Individual Comments** | | | | |
| 000000369-16 | Manatee County, FL, Ed Hunzeker | County Government | 5. Section 3.3.7.2, Page 3-130: Manatee County recently updated its population projections with the update to the Sarasota-Manatee Metropolitan Planning Organization's Long Range Transportation Plan (MPO-LRTP). The projections were based upon Certificates of Occupancy and local development trends. While generally comparable, the LRTP had a higher growth projection to 2035 by 5% while still remaining inside the County's Future Development Area Boundary. This boundary is essentially the western edge of the Agricultural/Rural (Ag/R) Future Land Use Category which aligns with the County's eastern boundary of its sewer service area. | Comment acknowledged. The populations shown in the Draft AEIS were retained as they generally comparable to the revised projections and provide for consistency in projection methodologies between counties. |

## Surface Water and Water Resources

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| **Summary Comments** | | | | |
| **SW-1** | | | **This summary comment responds to questions related to how stormwater runoff is retained for reuse within the active mines and its effect further downstream, with commenters also noting that water does not always discharge based on how it is managed for mining. Other comments raised issues related to seasonal and low flows. A commenter also stated that mining and reclamation reduces flood flows and increases stream flows.** | **Additional text explaining the recycling of water during the mining process was added to Final AEIS. Downstream effects and seasonal changes in flow are described in the surface water section of Chapter 4 and Appendix G Surface Water Impact Analysis.** |
| 000000018-1 | Hunter Lilly | Private Citizen | My only input for this potentially massive phosphate mining project is:Please look at the TOTAL costs of this project- and look deeper than the all too common responses of Mosaic to water recycling, habitat/eco restoration, air quality impacts, etc. Large acreages of cogon grass, monocultured slash pines, huge gypson stacks, deep well injections, huge amounts of natural gas used to make their fertilizers (which is highly destructive to obtain via fracking, etc.- and major greenhouse gas).What do they mean by recycling most of their water? Even if they did recycle a certain percentage, the huge amounts of water they will be using amounts to large amounts not being recycled. Also, recycled water is rarely the quality of an original water source. | Included in summary response above. |
| 000000272-19 | Sarasota County, FL, Christine Robinson | County Government | Section 3.3.2.5 says that surface discharges occur during periods of high rainfall. This is not always true it depends on how water is managed for mining purposes. The draft Horse Creek Stewardship Program annual report for 2010 shows large discharges during dry season because of water moved between watersheds for beneficiation. This information should be available from the Authority, Mosaic or Cardno Entrix. The assumption that discharges coincide with natural high flows is an example of a common practice that is not required in law, but perhaps should be for the benefit of the watershed. | Included in summary response above. |
| 000000272-111 | Sarasota County, FL, Christine Robinson | County Government | Schreuder, Peter J., P.G., Earls, Julie K., and Dumeyer, John M., P.E., P.G., Schreuder, Inc., 2006. Impact of Phosphate Mining on Streamflow. for the Florida Institute of Phosphate Research. Compared land use changes to resulting streamflow changes in two drainage basins of the Peace River watershed one mined (Payne Creek drainage basin), one unmined (Joshua Creek drainage basin). Concluded that | This study is referenced and figures included in Appendix G. The underlying issues are Included in summary response above. |

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| | | | mined basins increase overall streamflow. Flood-flows from mined basins are reduced by mining operations while median and base-flows are significantly increased. Rainfall was less in mined basin, but streamflow was higher. Streamflow from mined basins is consistently higher than in basins where irrigated agriculture dominates. | |
| 000000373-8 | Audubon Florida, Eric Draper | Environmental Organization | Water conservation and appropriately timed release of stormwater: The draft notes significant improvement in efficient use of process water in phosphate mining activities. Audubon urges continued research into and use of practices which reduce the use of water. Onsite stormwater collection systems should be managed to reduce harm and potentially help with timing of seasonal flows to streams, floodplains and the downstream estuary. | Included in summary response above. |
| **SW-2** | | | **The DAEIS reported the change in flow from the Alternative 1 case (no future mines approved). These comments are related to reductions in future flows resulting from mining.** | **The text was reworded in the surface water section of Chapter 4 of the Final AEIS to more clearly describe the change in flow relative to existing conditions. The DAEIS compared flows against Alternative 1 (no new mines), but it is more accurate to discuss the change to existing flows (2020 estimate would be closest to existing conditions) related to impacts. The surface water section of Chapter 4 and Appendix G of Final AEIS expanded the discussion on future changes to flow rates, including the Charlotte Harbor Estuary. Surface water yield analyses were conducted addressing conditions during the dry and wet seasons, and all of these results are presented in the Final AEIS to address comments received on the Draft AEIS.** |
| 000000199-5 | James Cooper | Private Citizen | So, secondly, on the water impacts, its my understanding that the amount of water thats being used from this study, the total amount of water that wont make it to Charlotte Harbor in 2030, this is a big number, 9,672,106,008, that many gallons are not going to get down to the harbor, with all of this mining in 2030, and I think thats billions. That's a lot, almost 10 billion gallons. So that is going to have some effect on Charlotte Harbor and it cant be a bad effect because they need that water.The problem is, for example, using the fish as an example, the fish nursery areas are in the saline portion, where fresh water and salt water come together. If you have less fresh water coming down, there's more salt water going up, then you're pushing all the water into a narrow area. If it is | Included in summary response above. |

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| | | | in a narrow area, there is not a good opportunity for the fish to grow, which means you won't have as many fish. And if you dont have the fish, you dont have tourism, you dont have the fishing industry. And that's jobs taken away from the future of Charlotte Harbor. That's our tax base.So I don't want them unintentionally, just because they don't do it properly, affecting the tax base of the entire region here, because they don't take the time to find ways to avoid doing the wrong thing. I think there are ways to do it right. I don't know exactly what they are but they ought to be looked at. | |
| 000000277-4 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | Q.3-Freshwater flow reductions will have an impact on salinity and mixing points within Charlotte Harbor. Why is the issue not addressed within the AEIS? What background data was used to determine no impact? | Included in summary response above. |
| 000000280-22 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.7.3 Cumulative Effects on Peace and Myakka River Discharges to Charlotte Harbor Estuary Although the analysis is questionable based on comments herein, a 16% reduction in average annual flows to Horse Creek should be considered significant. To provide an adequate analysis of potential impacts, seasonal flows as well as drought and flood conditions must be evaluated, including an assessment of the volume, timing, and distribution changes due to alternatives considered. | Included in summary response above. |
| 000000371-94 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Pine Level/Keys mine. O.K., it's here that we find out that the EIS is using 50 inches for all the calculations of rainfall above based on Peace River rainfall, and 53 inches for Myakka "normal" rainfall (this should be explained much earlier to save the reader some confusion). Estimated maximum change of 6 percent flow in Big Slough flow under both 53 and 43 inches of annual rainfall alternatives. Under normal rainfall years the City of North Port is not able to use their water supply for 4-6 months due to low flow and poor water quality. Any increase in this no-withdrawal period will have direct impacts to North Port and the Authority who supplies water to North Port during these annual periods. What would be the economic cost of such impacts to the City of North Port Water Supply on both them and the Authority (who would have to make up the extra supplies). | Included in summary response above. |

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| 000000371-95 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Pioneer Mine is predicted to change flows to the Peace River from Horse Creek of 2 percent under 50 and 43 inches of rainfall, and no perceivable change at Peace at Arcadia. All mines combined "all three mines and the foreseeable mines" in the Peace River /Horse Creek watersheds. 16 percent change in the river flow with an annual average rainfall (50 inches) in 2030 and only a 13 percent change in river flow under 43 inches of rain the AEIS method actually hides the real dry-season changes. AEIS model has concluded that no change in flow will occur for the Peace River at Arcadia ¬this conclusion might indicate that the model assumptions don't work all that well. The fact that the model shows far more impacts under wetter conditions than dry conditions indicates that it has issues with regard to really estimating flow impacts during drier periods of time. When total Peace River (including Shell Creek) are added the total reduction in river flow is 2.4 percent of the flows to upper Charlotte Harbor by the Peace. Obviously, it would be a bit higher at the Authority intake. A 2 percent reduction in total flow is the maximum estimate from the Myakka to Charlotte Harbor. When combined the total maximum projected impacts on freshwater flow to Charlotte Harbor would be approximately 2 percent. | Included in summary response above. |
| 000000373-5 | Audubon Florida, Eric Draper | Environmental Organization | Surface water flows to the Peace River and its tributaries: The draft AEIS suggests that overall reductions in groundwater withdrawal in some existing mines may lead to future improved surface water flows at the same time the proposed mining alternatives may impact flows. Audubon is concerned about the potential 16% reduction in flow to Horse Creek (see 4-232). The AEIS should better explain the causes of this reduction. | Included in summary response above. |
| 000000385-7 | Jono Miller | Private Citizen | Page 33 Lines 12-15 the cumulative effect on the Myakka River discharges to Charlotte Harbor was a reduction in predicted annual flows from 709 cfs to 696 cfs. This represents a decrease of 13 cfs, or approximately 2 percent of the water deliveries to the Charlotte Harbor estuary from the Myakka River Basin. The Myakka estuary is already flow deficient as a result of the historic diversion of Cowpen Slough and the creation of the Blackburn Canal that was dredged to the west to divert high river flows. So the real impacts of a 2% diversion would need to be added to historic diversions from | Included in summary response above. |

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| | | | the estuary in order to accurately assess the impacts. Page 34 Lines 3-6 This text regarding maximal cumulative impact assumes that the maximal impacts will be caused by diminished flows. That is certainly a distinct possibility and deserves careful consideration. However, the Myakka has no base flow so the AEIS needs to address the contrary possibility the maximal impacts could be caused by increased flows (which have already killed 2.5 square miles of swamp habitat in Flatford Swamp). These increased hydroperiod flows are related to agricultural pumping, not mining, but demonstrate that the Myakka system is very sensitive to increased flows. Based on the history of the phosphate industry, shedding excess waters during extreme high rainfall events or containment failures may pose a greater threat to the Myakka and Charlotte Harbor. For historic perspective on these documents threats see Table PR-QL-42 on pages PR 251 and 252 in Miller, Jonathan and Morris, Julie. 1981, The Peace River, in Estevez, E.D., A review of scientific information Charlotte Harbor (Florida) estuarine ecosystems complex: Fort Myers, Fla. Mote Marine Laboratory Review Series No. 3. 1077 p. | |
| 000000550-19 | POW & LBC, James Cooper | Environmental Organization | The DAEIS does NOT contain a year by year, season by season, mine by mine CHART measuring impacts on each & all steams, creeks &rivers over time? Instead: They intentionally avoid using this vital analytical tool (which is easily complied) & the ACE simply falls back to viewing Yearly AVERAGES. This was correctly pointed out by noted regional hydrologist, Dr. Ralph Montgomery, who also provided the scientific hydrology data for each of the many basins in FDEP funded 2007 Peace River CIS! Thus, one cannot determine where & when in time & season Critical friction points occur, so that proper NEPA rules based scientific alternatives can be provided to avoid these negative situations - Per NEPA. At this time Flows appear to be reduced up to 16-20%, which can & will harm the vital downstream health & productivity of Charlotte Harbor. THIS MAJOR FLAW MUST BE CORRECTED. | Included in summary response above. |
| 000000550-23 | POW & LBC, James Cooper | Environmental Organization | DOWNSTREAM INFLOW to the Harbor WATER FLOWS SUPPLY PROBLEM: STREAM FLOWS from all major upstream tributaries which flow through the southern (presently not mined) areas of the CFPD all contribute significantly as a watershed based system to maintain a fragile environmental | Included in summary response above. |

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| | | | balance all year long without future mining. What will happen quantitatively, qualitatively and in the actual timing of these esential flows each season: new mine by mine, year by year, by season as multiple new mines (at least 6 which are known and will mine out 92,000 new southern acres) several operating at the same times & at least 3 all directly impacting Horse Creek physically do to this incredibly delicate and vital system watershed downstream water flows balance to the regional water supply & various aquatic dependent vegetation and fish in the Peace River, Myakka River and the health of Charlotte Harbor is currently unknown, due to FLAWS in this DAEIS! What we do know: Any major negative impacts, especially reduction of stream flows by at least 16-20% will be ABSOLUTELY CRITICAL & these reductions will create unwanted, unnecessary (many avoidable) negative impacts to Charlotte Harbor & its now healthy, productive ecosystems, fish nursery areas and its fishery. (Please read noted hydrologist: Dr. Ralph Montgomerys analysis supplied by POW on 7/25/12) QUESTIONS TO CONSIDER, As the MINING Drops Stream Flows Sharply: How does the Region deal with this reduction in water flow & availability? Will it decrease the Regional Water Supply & Needed Total Capacity? Can the reductions in stream flow be lessened by a change in mining patterns? What are the Habitat Impacts? Where are total functional environmental ecosystem impacts & how can they be avoided or mitigated? | |
| **SW-3** | | | **There are several comments related to literature and the documentation of past impacts to the hydrologic regime from mining in general. There are also comments related to how the flow changes after mining is completed and the land reclaimed.** | **Chapter 3 of the Final AEIS was expanded to explain the differences in the hydrologic regime in the watershed. The effects of historic mines are captured in the analysis based observed flow data. Not every study in the literature which documented past change is applicable to future mining because the methods for managing the water within individual mines are different based on the location within the CFPD and time of mining. As described in Appendix G, Final AEIS land use projections and landscape responses were reviewed to evaluate changes in flow levels on a subwatershed basis relative to pre-mining conditions.** |
| 000000272-18 | Sarasota County, FL, Christine Robinson | County Government | Section 3.3.2.4 describes high base flow in Payne Creek and higher peak flow and higher peak runoff. The AEIS should go into greater detail about these assertions. Doe these statements suggest that increased flows come from reduced | Included in summary response above. |

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| | | | infiltration to the aquifers? Please describe flow changes in regard to overall water budget using the same rainfall input. | |
| 000000272-21 | Sarasota County, FL, Christine Robinson | County Government | Table 3-6 should be augmented because it is lacking in detail. A map should show where mining is happening. Is that much variation in evapotranspiration (ET) plausible? Explain the dramatic range of baseflows. Again, annual analysis is insufficiently detailed to meet the needs of the ecosystem of water supply needs. | Included in summary response above. |
| 000000272-89 | Sarasota County, FL, Christine Robinson | County Government | 3.3.2.5 Effects of Phosphate Mine Operations on Watershed Flows AEIS simplifies conclusions of cited studies need to take into account the relative balance between rainfall, surface runoff, baseflow to streams through discharge from surficial aquifer system, and changes in recharge to Intermediate and Floridan aquifer systems. | Included in summary response above. |
| 000000280-13 | Lee County, FL, Roland Ottolini, P.E. | County Government | Regionally, this is the watershed serving several streams and rivers which comprise a significant portion of the base flow for the Charlotte Harbor estuary system. As such, the disruption, alteration and removal of significant portions of the surficial matrix (SAS) serving as the conduit for the groundwater base flow to these streams and rivers must be a significant portion of any assessment or study. The Surface flow evaluation methodology used average annual flows for comparison of downstream system viability through the evaluation process. It is shown in estuarine system evaluations; the health of the system is dependent upon the range and duration of the isohaline zone. Average values do not assure system health. Extremes in concentrations and duration have been shown to negatively impact system viability and indeed result in system failure while maintaining an annual average. The more important measure is base flow. It is one of the more relevant metrics for system survivability. Flash flows with high runoff, reduced periods of runoff, increased runoff rates combined with periods of extreme low flows may have an acceptable average annual flow. However, a source with a flashy nature has a negative impact on the receiving system. Submerged aquatic plants do not survive in extreme saline conditions which are unstable beyond the survivable range of the plant species. The cumulative impact of all of the projects on the receiving or adjacent ecosystem is difficult to predict. It is almost impossible to detect over an extended period, as | Included in summary response above. |

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| | | | changes occur gradually, precluding comparative evaluation or allowing the impact of contrast to be used as a metric. The average annual flow assumption of impact is a flawed assumption. The impacts to receiving waters, their associated ecosystems, flora and fauna are significantly impacted by changes in base flow, as opposed to the average annual flow. | |
| 000000430-7 | USGS, Arturo E Torres | Federal Agency | Capture Area Projections used to understand the cumulative streamflow reductions from four proposed mines also should accumulate the captured areas on historic and existing mine tracts. This comment is related to comments 4 and 11. Estimates of captured flows on current and historically mined areas should be validated by long-term measurements of actual streamflow. | Included in summary response above. |
| 000000430-8 | USGS, Arturo E Torres | Federal Agency | The DAEIS does not adequately address the effects of clay settling areas (CSA) on the surface and groundwater hydrology of reclaimed mined areas. Water quality aspects are reported (e.g, p. 4-118-123) with respect to their importance as avian habitat. However, little is reported on hydrology. The capture area analyses (Appendix E) makes assumptions about the time frame for reconnecting CSA acreage entirely back into the watershed, but no measured results are reported on previously reclaimed CSAs. How accurate are these assumptions? No references are cited to verify the current hydrologic function of the 234 existing clay settling areas that make up 150 square miles or one-third of the CFPD. The influence of CSAs on the local hydrology or how they, collectively, contribute to the area-wide surface and groundwater hydrology of the Central Florida Phosphate District is not reported. The AEIS should include a synthesis of the existing understanding of the effect of CSAs on groundwater and streamflow contributions in the Central Florida Phosphate District to inform decisions about proposed and future mining on cumulative impacts. | Included in summary response above. |
| 000000542-84 | Percy Angelo | Private Citizen | Unfortunately, in order to understand impacts one has to make ones own time charts of overlapping operations and times of impact. The only time chart in the DAEIS, 4-173, does not contain flow impact data. Nor does it include reclamation periods (when pumping is still necessary) or additional future mines Pine Level/Keys and Pioneer. The calculations presented above accept the DAEIS assumption that mining | Included in summary response above. The capture curves in the Final AEIS are another way of presenting the information shown in the flow charts. |

## Surface Water and Water Resources

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| | | | areas will be reclaimed, ditches and berms removed, and the surface water flows returned to the river systems on schedule (although the text does not give the schedule for reclamation and at different points the DAEIS assumes 3, 8, 10 and even 16 years after mining). The reality of course is that the mining companies are rarely on schedule. Reclamation is frequently delayed, which means surface water impacts will continue well beyond the assumptions of the DAEIS. The DAEIS concedes that mining infill projects, not considered in the DAEIS at all, can also add to the life and total acreage of a mine. The failure to identify impacts during natural low flow conditions, the failure to consider the full duration of loss, the failure to consider cumulative impacts, and the failure to consider the consequences of substantial loss of flow over time to the affected water supplies or to a river like Horse Creek makes the analysis entirely insufficient. | |
| 000000553-2 | Percy Angelo | Private Citizen | When the mining companies and the DAEIS argue that the bad impacts of mining are in the past they ignore the reality that the worst impacts, the capture of thousands of acres of surface water, are not in the past at all but are about to get much worse than the situation today. | Included in summary response above. |
| **SW-4** | | | **This group of comments is primarily related to the lack of discussion on the dry season, or the focus only on the annual average runoff. There were many commenters that wanted more analysis and discussion of the dry season, monthly differences in flows, the effect of low flows on natural resources and downstream water users, including water supply intake operations, and cumulative impacts.** | **Appendices G Surface Water Impact Analysis and J Impact Evaluation Methods of the Final AEIS evaluate flow differences between seasons for both individual and cumulative impacts. Additional sensitivity analyses were included on the potential effect of the capture area and flow conditions after reclamation. An estimation of the potential for mining effects to influence the number of low flow days relevant to water supply intake operations was added to cumulative impacts analysis. The Final AEIS also includes an expanded discussion of how the ditch and berm system is used to maintain base flow /moisture to adjacent wetlands in the vicinity of the active mining operations and reclamation. A Minimum Flow and Level (MFL) study is not part of the AEIS as it is a SWFWMD responsibility.** |
| 000000272-6 | Sarasota County, FL, Christine Robinson | County Government | The analysis of flows to the Peace River documented in Chapter 4 and Appendix E do not take into account seasonality of flow and provide information based upon an annual average basis. The AEIS needs to be redone to account for seasonality of flows within the Peace and Myakka River | Included in summary response above. |

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| | | | basins and demonstrate that the low flows (flows below 67 cfs) are protected and will not be impacted. Having a minimal impact on an annual average basis does not provide sufficient assurance that low flow conditions will not be impacted. The analysis should use the three seasonal block scheduled used by SWFWMD in the MFL analysis. | |
| 000000275-8 | Helen King | Private Citizen | The data used for flows involves annual averages, which conceals periods of drought and naturally lower flow when the mining impact will be much more serious. | Included in summary response above. |
| 000000277-1 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | When the AEIS states the reduction in flow is nominal because the numbers fall within one standard deviation the model fails to account for pre-existing impairments in the surface water bodies. The AEIS projects the highest reduction in water flow into Charlotte Harbor to be 41cfs (cubic feet per second). While 41cfs may not seem large it equates to 9,672,106,968 (billion) gallons of water that will NOT make it into Charlotte Harbor in just 2030 alone. On a per day basis for 2030 alone that is 26.5 million gallons per day, Peace River Manasota Regional Water Supply Authority (where our drinking water comes from) by comparison uses about half that amount, 13.8 mgd. The AEIS predicts nearly 20 years of flow reduced by amounts close to this one year. Q.1-What will the effects be on the harbor after cumulative years of this reduction? The AEIS makes no reference to the cumulative potential for impacts over the span of the mining operations only the year to year "nominal" reductions. These reductions are seen as nominal because data indicates the flow reductions are within the natural fluctuations normally seen in the system but the proposed actions will not allow for years when the flow would be expected to exceed mean flow levels. In effect the proposed action is a continual drain on the freshwater delivery system without allowing for the natural "recharge" of excessive flow years because the mining operations will seek to capture and retain as much of that water as can be contained within the berm system of the mine. That captured surface water will only be released when the storage capacity is exceeded and the contaminant levels of that discharge will exceed monitoring levels for that event. Parameters are elevated for phosphorus, dissolved solids, conductivity, sulfate, and fluoride. Long term averages of course are lower because they are averaged over time when the capacity of the | Included in summary response above. |

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| | | | berm system is not exceeded and there are no discharges but the impacts of the spikes in levels is not addressed. | |
| 000000280-4 | Lee County, FL, Roland Ottolini, P.E. | County Government | 1. In the Surface Water Analysis, only the annual average rainfalls and flows were considered while the purpose of AEIS is to evaluate cumulative environmental impacts of proposed mines. Needless to say, Florida has two extreme meteorological and hydrological challenges over two distinct seasons: flooding during wet season and drought during dry season. Any Environmental Impact Analysis excluding these two extreme hydrologic conditions has minimum scientific value. In other words, by considering only the annual average hydraulic conditions, it is impossible to determine the real impacts of the proposed mining activities (e.g., excavation, ditches and berms, impoundments, etc.) during dry and wet seasons (both the severity and duration of impact). Subsequently, the water quality impacts associated with the extreme hydrologic conditions cannot be determined and were inappropriately evaluated in the report. | Included in summary response above. |
| 000000280-40 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.5.2 and 4.5.3 (begin page 4-84) and Section 4.12 and Appendix E All surface water analyses are presented on an annual basis. Given the distinctive season pattern of central Floridas weather and hydrologic systems, the magnitude of stream flow reductions should also be presented on a monthly and seasonal basis. A seasonal evaluation is much more useful for assessing environmental stress than an annual average review. On page 4-114 the AEIS states that ...macro-invertebrate abundance and richness in this [Horse] creek is greater during the dry season than during the wet season. This is one example of the importance of assessing the potential impacts to low flows in the lower order streams in the study area. 4.5.2 Surface Water Resource Impact Evaluations for the Applicants Proposed Mine Locations P. 4-88, Figure 4-36 and Appendix E The capture area graphics do not account for continuing on-site depressional storage resulting from the creation of lakes, which are projected to be of substantial acreage. Newly created lakes would result in a permanent loss of areas contributing to runoff. | Included in summary response above. |

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| 000000280-58 | Lee County, FL, Roland Ottolini, P.E. | County Government | 5.0 Stream Flow Projections and Evaluation of Hydrologic Effects P.33-P.59 The results presented in Section 5.0 (Stream Flow Projection and Evaluation of Hydrologic Effects) should not be used in the scientific decision making process because the annual average rainfalls were used instead of seasonally varying rainfalls. | Included in summary response above. |
| 000000280-60 | Lee County, FL, Roland Ottolini, P.E. | County Government | 5.7.1 Horse Creek and Peace River at Arcadia Cumulative Impact Our consultant digitized the plots of total capture areas over time from Chapter 4 and Appendix E for each proposed mine or mine extension. The digitized data were used to calculate a cumulative sum of the individual total mine capture areas for the Horse Creek subwatershed. The plot of the cumulative sum, along with the individual plots used to produce the cumulative sum, is shown in Figure 1 (see below). Similarly, capture area plots of individual mines were digitized for all watersheds and used to calculate the cumulative impact of the individual mines to all watersheds. Cumulative capture areas for all watersheds are shown in Figure 2 below. P.52 The surface water analyses conducted used either average or low rainfall estimates. CH2M Hill states that during average rainfall conditions the largest impact on annual average flow from the Horse Creek subwatershed of 27 cfs was predicted to occur in 2030. For lower rainfall conditions, the largest impact on the Horse Creek subwatershed is 13 cfs. As shown in Figure 1, based on cumulative capture area, the largest impact of approximately 27 cfs would be expected to occur over a period extending from approximately 2027 through 2040, or about 13 years. Potential seasonal impacts were not considered by any of the surface water analyses, which may be more important biologically. Figure 2. Cumulative Mine Capture Areas All Watersheds. | Included in summary response above. |
| 000000369-2 | Manatee County, FL, Ed Hunzeker | County Government | 2. ES.6.2.2 (Chapter 3, Chapter 4, and Appendix E): The AEIS makes conclusions regarding the effect proposed mining will have on surface water flows based on an annual average basis. As the Peace River (Horse Creek basin) and the Myakkahatchee Creek serve as sources for significant public potable supplies, using the effect on the annual average flow is an inadequate approach. The flows of these rivers are highly seasonal, with the vast majority of the flow coming in the four month rainy season. Prolonged dry seasons of much less than | Included in summary response above. |

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| | | | average flow are the norm. The analysis of mining impacts on these rivers needs to be based not on average annual flow but on a seasonally adjusted flow regime similar to those used in the Southwest Water Management District's approach to setting minimum flow for these rivers. Any analysis that shows 'minimal effect" has to show that there is minimal effect on the low flow periods and that the base flows reserved for the environment (i.e., 67cfs at the Middle Peace River Arcadia Gage) are protected. Showing 'minimal' effect on average annual flow does not assure that low flows will not be impacted. This takes on added significance if a predicted shift to less frequent, but higher intensity rains occur with global climate changes. | |
| 000000371-1 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | I. Quantity & Timing of River Flow A major issue relative to the Authority's regional drinking water supply operations on the Peace River relates directly to how potential reductions in stream flows were assessed in AEIS. Flow-related impacts affecting Peace River Facility withdrawals and the Authority's drinking water system reliability will be masked by use of techniques that consider the annual average changes in flow impacts from mining. Annual averaging tends to mask impacts on water supply availability during dry weather by averaging dry-season flows with the high volume wet-season flows. The "average" condition typically provides adequate flow to meet water supply needs, however, conditions are rarely average, and in the past 12 years have tended to be very dry for extended periods. Analysis of mine related impacts on river flow should include evaluation of all potential mine-related impacts over a full range of actual historical river flows so that impacts to permitted water supply facilities such as ours can be discerned. Reduced supply availability and water system reliability could necessitate any or all of the following costly actions: Installation for more pumping capacity on the river, Construction of more water storage capacity, Implementation of alternative treatment methods (such as membranes) and/or, Development of new sources. | Included in summary response above. |
| 000000371-5 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The other major issue relative to the interests of the Peace River Manasota Regional Water Supply Authority (Authority) is with regard to how potential reductions in stream flows were assessed. The applied method did make some attempt to differentiate between seasonal flows. As applied, however, | Included in summary response above. |

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| | | | the method used to estimate changes in flows due to mining didn't take into account the reality of lower flows, and their implications for water supply reliability and the cost to store more water or develop additional supplies. The method used in the AEIS both masks the real impacts of "non-contributing" portions of watershed created during mining on seasonally lower flows by averaging in the much smaller (or no) impacts during seasonally higher flows. The presented impacts on surface flows are based on annual averages, which mask the much larger expected changes during seasonally lower flows. The applied method also assumed increasing flows over time (with rainfall being held constant) based on landuse changes that may not occur or be extended much further into the future. | |
| 000000371-6 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Prime considerations for downstream public water supplies (Authority and City of North Port) are that the AEIS needs to better address how the presented alternatives both individually and cumulatively will influence the seasonal timing of lower flows currently relied on for water supply. | Included in summary response above. |
| 000000371-21 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | How much surface water flow will be removed by mining and for how long from the Myakka and Peace Rivers under dry-season conditions (without averaging in wet-season discharges)? This is a major issue for the Authority and the City of North Port's water supply reliability. The methodology applied to evaluate impacts of mining on stream flows does not specifically address seasonal impacts (although it says they do, because they use adjusted seasonal rainfall coefficients). Impacts are only provided as annual averages. The greatest impacts to the Peace River Facility withdrawals and system reliability will not be based on an annual average (unless storage is further increased), but will primarily occur during drier periods. The method used in the AEIS masks dry-season impacts by averaging dry-season impacts with wet-season impacts to provide annual averages. | Included in summary response above. |
| 000000371-22 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The greatest system reliability impact occurs in the dry-season, but the wet-season was averaged which masks the larger dry-season downstream impacts to the Authority's water supply. The AEIS should determine the total impacts during the dry-season over time of the combined influences to the authority's water supply and the water supply for the City | Included in summary response above. |

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| | | | of North Port. | |
| 000000371-29 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Cumulative Impacts. "One of the key issues which drove the decision to conduct this AEIS was whether the cumulative effects of having multiple phosphate mines operating in the same geographies during overlapping time periods would be substantive enough in terms of spatial and temporal impacts to cause harm to the downstream portions of the Peace and Myakka River watersheds. A major concern was whether such effects could ultimately impact the biological and water quality conditions in the estuarine portions of the rivers leading into Charlotte Harbor estuary, which is the northern segment of the overall estuary included under the Charlotte Harbor National Estuary Program" The AEIS needs to address the cumulative impacts on public downstream water supplies, especially with regard to seasonal availability of supplies under lower seasonal flows, low flow water quality issues during phosphogypsum stack closures, and economic burdens of increasing wet season storage, additional treatment to treat declining water quality and the development of additional new water supplies to compensate for low flow mining impacts. | Included in the summary comment response above for seasonality and low flows. |
| 000000371-36 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | " There does not appear to be a worldwide shortage of phosphate rock. ..... The political security of these supplies is lacking, with disruptions a common occurrence (Litton, 2011). ..... " Certainly there are plenty of economic reasons, but the AEIS seems to discount numerous impacts not associated with 404 dredge and fill permitting. The holding of water during the dry-season and beginning of the wet-season by mines until excess is accumulated in their circulation system, delays down stream flows and extends the dry-season low flow period downstream. This condition reduces water supply reliability and requires the additional investment in storage infrastructure or new supplies by public supplies to compensate for mining impacts. The AEIS needs to discuss this large dry-season impact in greater detail and add this discussion to the economic impact section as well. | Included in summary response above. |
| 000000371-44 | Peace River Manasota Regional Water Supply Authority, | Regional Agency | The AEIS correctly states that "The annual contribution of the mine to downstream flows would not necessarily be zero because at times, excess water accumulations within the recirculation system would occur resulting in off-mine | Included in summary response above. |

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| | Mike Coates | | discharges through the permitted NPDES outfalls. However, the annual accumulation of water within the mine recirculation system will on an annual basis delay and shift down in time the normal stream hydrograph causing the dry low flow period to be extended. This condition has an impact on the reliability of public utilities that use the stream as a source of water supply. This condition causes as a minimum for the utility to find alternative sources of water or create additional storage to increase system reliability. The quantity and timing of water contributions to downstream flows would clearly not be the same as if the lands remained in the un-mined condition." We suggest that many of the graphics presented on flows are a bit dated and might be updated ¬not that it changes any of the conclusions drawn. The AEIS states that the "targeted" minimum flow is 130 cfs for the Peace River facility withdrawal schedule which isn't exactly true the 130 cfs is a threshold below which no withdrawals are allowed. That flow is based on the combined flow of the Peace at Arcadia, plus Horse and Joshua Creeks (USGS) gages. The flow naturally goes below this level and there isn't any District plan to try to maintain a given flow in the lower river - unlike the District's fish passage goal for the upper Peace. | |
| 000000371-47 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The mining discharge graphics clearly show that the mines normally do not discharge much water during the drier months of the year. Suggesting that any analyses of the effects of mining need to specifically address dry-season flows and a shifting of the normal stream flow hydrograph and not focus on annual average flow reductions. | Included in summary response above. |
| 000000371-53 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "If multiple mines operating in a single subbasin resulted in a sufficient cumulative reduction in freshwater flows to an estuary, the changed flows could lead to an extension of higher salinity waters upstream into the river in turn influencing the species composition and structure of biological populations. Alternatively, if the multiple phosphate mines had surface water discharges that sufficiently differed from the natural water quality of streams draining a subbasin, those changes in water quality could also potentially cause shifts in aquatic community characteristics. For these reasons, it is appropriate to characterize the general conditions of the estuarine aquatic communities currently present within the tidal reaches of the key river watersheds within which future | Included in summary response above. |

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| | | | mining projects are proposed" This seems like a very reasonable assumption but the AEIS also needs to evaluate these mining impacts as it relates to downstream water supply. As stated before the AEIS needs to evaluate these matters in greater detail by determining impacts during dry season conditions and not allow the process of averaging stream flows hide real impacts to the estuary and public supply. | |
| 000000371-58 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS states: "Any phosphate mining effects which substantively reduced water deliveries through the river to flow rates which increased the risk of inhibiting the Authority's ability to withdraw raw water would be of major concern to this water supplier. Additionally, any substantive change in water quality characteristics of the river water which altered the water treatment plant's ability to achieve potable water standards without treatment system upgrades would be of concern in that such would impact plant operational costs." All true, but the AEIS must also address the shift in the normal hydroperiod impacting system reliability, requiring the addition of more storage capacity and the economic impacts this would cause, especially later under the cumulative impact section. | Included in summary response above. |
| 000000371-62 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Surface Water: "Surface water analyses will consider the potential effects of each of the four proposed actions for the expected life of each of those actions, plus the cumulative effects of the four proposed actions plus the two reasonably foreseeable actions from the 2010 baseline condition through 2060". " "During phosphate mining, much of the direct rainfall on a given mine area is captured and held within a mine's recirculation system, consisting of a network of open-channel ditches and canals, clay settling area impoundments, and a network of pipelines used for conveyance of water, matrix, sand, and clay slurries. Following capture, the water is used and reused to support these conveyance functions. Therefore, on a long-term average basis, there tends to be less runoff from active mines to downstream water bodies." This seems to acknowledge major sources of impacts to stream flows and the shifting of the normal hydrograph. The method used to evaluate impacts used the following four premises: 1. "The method needs to account for runoff differences between different soils and land uses. 2. The method should support | Included in summary response above. |

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| | | | analysis of affected subbasins as well as the overall river watersheds within which the subject mines are located. 3, The method should account for a seasonal component since central Florida has distinct dry and wet seasons. 4. The method must account for changes in land use, including mining, far into the future (to 2060) with reasonable accuracy and sensitivity." Number three above wasn't adequately addressed in assessing maximum seasonal impacts to flows and potential downstream water supplies. A relatively simple U.S. Environmental Protection Agency (USEPA) method was used to predict annual runoff. | |
| 000000371-67 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Neither the text nor Appendix E seems to address potential impacts on water supply in any of the watersheds, although phosphate mining (direct and indirect impacts) is expected to impact Tampa Bay Water, City of North Port and the Peace River Water Supply Authority's operations. Peace River will have to supply additional water to the City of North Port, and will have to withdraw more and store more high flows to supplement losses under lower flows. The Authority may also have to find alternative water supplies, add additional water storage as a result of shifting normal hydrographs and add additional treatment technologies to treat declining water quality changes from mining and chemical plants. | Included in summary response above. |
| 000000371-85 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Surface Water Modeled impacts to surface flows are presented as changes in annual averages. Potential impacts to both downstream estuarine resources and public water supplies however can't be based on annual averages. These potential impacts will be driven by maximum changes over much shorter durations (not using normal year and dry year rainfall as presented). The AEIS needs to address estimated seasonally based changes annual average hydrograph, and not simply annual averages which can mask short periods of large changes by averaging in longer periods of little impact. | Included in summary response above. |
| 000000371-91 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The discussion of how flow estimates were made doesn't say how rainfall was seasonally partitioned - 40/60%? The method used completely negates any assessment under wetter or drier periods - during droughts mining impacts to dry season flows are expected to be far more than the normalized annual flows used in the AEIS. | Included in summary response above. |

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| 000000373-15 | Audubon Florida, Eric Draper | Environmental Organization | The low estimate of freshwater impact on Charlotte Harbor reported in the Draft was unexpected. Therefore, given seasonal differences in water deliveries, Audubon Florida recommends that impacts be measured during peak and non-peak flows as well as projected during periodic droughts. From a wildlife perspective peak flows are important for the purpose of saturating floodplains and rehydrating wetlands. Non-peak flows are important as low flows could lead to a shortened hydro-period for floodplains and partially isolated wetlands. Key foraging areas for birds are formed and enhanced by floodplain saturation. | Included in summary response above. |
| 000000387-7 | Mary Olsson | Private Citizen | P. 3-47, line 9-15 Florida law (Chapter 373.042, Florida Statutes) requires the state water management districts or the Department of Environmental Protection to establish minimum flows and levels (MFLs) for aquifers, surface watercourses, and other surface water bodies to identify the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. (Lines 9 through 15). Why are groundwater MFLs conducted using annual pumping? What is rational for recommendation in the MFL impact excluding analysis using the worst case drought period pumping rates, not annual pumping rates? The seasonal groundwater fluctuations appear in the range of 30 to 50, according to the Appendix D (Figures 4 & 5 and the statements on page 16). What is a further explanation to exclude surface water impact on the States MFLs evaluations and why is the report not using the annual rainfalls but the dry season precipitation with the proposed land use change? | Included in the summary comment response above related to surface water effects. Also, the groundwater modeling presented in The Appendix F of the Final AEIS was based on the permitted quantities for all users, and drought year rates for the mines. This was done to provide a conservative long term evaluation rather than focusing on short term conditions. |
| 000000393-18 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | The CHNEP CCMP includes objective HA-1: By 2015, identify, establish and maintain a more natural seasonal variation (annual hydrograph) in freshwater flows for [...] Peace River and its tributaries [and the] Myakka River... Actions including protecting headwater wetlands, restoring floodplains, restoring altered water courses, meeting minimum flows and levels (MFLs) and meeting water budget targets. CHNEP questions the accuracy of the 4.5.1 Consequences of Alternative 1, No Action, on Surface Water, page 4-82. Given that the capture analysis for other alternative mines demonstrates changes, reclamation of existing lands mined and not yet reclaimed (page 4-191) suggests that between 2000 and 2028, acreage of all past and present mines (25,000 | Included in summary response above. |

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| | | | acres) will be reclaimed. Given better flows after reclamation is complete within alternatives analysis (e.g. Figure 4-40 on page 4-91), it is reasonable to assume greater flows once capture areas are reclaimed in past and present mines. CHNEP requests that the No Action alternative be assessed with reclamation introduced as shown by 2028. | |
| 000000393-19 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of projected river flows analysis for the alternatives. Each alternative is assessed separately. However, CHNEP requests that the No Action changes, as described in the preceding paragraph, be introduced to the No Mining comparison for figures 4-37, 4-38, 4-40, 4-41, 4-43, 445, 4-46, 4-48, 4-50, and 4-51 (pages 4-88 through 4-102.) CHNEP also requests that Capture area graphs (Figures 4-36, 4-39, 4-42, 4-44, 4-47 and 4-49) display cumulative capture areas for the alternatives to assist in the cumulative analysis. In addition, CHNEP requests that the cumulative analysis for the alternatives within the Peace River basin be assessed related to surface water flows at the confluence of the Peace River and Horse Creek. NOT CLEAR THAT WE INCLUDED THIS IN OUR SUMMARY COMMENT. | Included in summary response above. No Action Alternative curves sometimes overlap, and this was documented in table notes. The sum of all three major tributaries near the confluence was included in the flow analysis of the Peace River to Charlotte Harbor. |
| 000000393-20 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the accuracy of alternatives analysis conducted under average annual rainfall conditions considering average annual flows. Average rainfall conditions and average flow conditions within the year represent a rare condition when ecological resources are under the least amount of stress. CHNEP requests assessing the cumulative impacts of mines on Peace River, Horse Creek and Big Slough utilizing both the 2003 and 2007 hydrographs, when conditions were at their most extreme within the period of record (see Figure 4-32 on page 4-83 and Figure 4-33 on page 4-84). | Included in summary response above. Daily flows were not analyzed in the Final AEIS. |
| 000000393-21 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the accuracy of alternatives analysis related to Minimum Flows and Levels (MFLs). Discussion regarding Cumulative Impacts to MFLs or MFL Target Water Levels begins on page 4¬ 220. However, this analysis is limited to Minimum Aquifer Levels (MALs) and does not address the MFLs as outlined in table 3-5 on page 3-49. Please note that a draft rule is available for the Lower Myakka River and is expected to be submitted to the Southwest Florida Water Management District Governing Board by August. The Lower | Included in summary response above. |

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| | | | Peace River MFL includes a 625 cfs maximum diversion and a low flow threshold of 90cfs. CHNEP requests that alternatives be assessed for the Lower Peace MFLs in a consistent fashion as was assessed for the MALs. CHNEP particularly requests using a 2003 hydrograph, median hydrograph and 2007 hydrograph to assess potential withdrawal impacts by block and any change to the 90 cfs threshold period. | |
| 000000394-2 | Sanibel-Captiva Conservation Foundation Marine Lab , Richard D Bartleson, PhD | Environmental Organization | In addition to eutrophication problems, the already severely reduced dry season water discharge from the Peace River will be further reduced by more mining, which will have a dramatic effect on estuarine species, and will curtail fisheries production. | Included in summary response above. |
| 000000430-9 | USGS, Arturo E Torres | Federal Agency | Annual average values of streamflow are used in the DAEIS but changes in the seasonally highest and lowest (percentile) flows are needed to understand impacts from mining. Measured and predicted changes in the median, highest, and lowest percentile flow rates, and not average rates, are typically used to identify changes to streamflow, as was done in Peace River Cumulative Impact Study 2007 (FDEP 2007). The majority of the proposed mined areas (3 out 4) are in the Peace River watershed, which is used as a municipal water supply supplement for southwestern Florida. The increased probability of reduced low flows during the dry season is important to current and future downstream water users. In the surface water resource section of the DAEIS (Chap. 4), an analysis was conducted to determine annual average flow from the Horse Creek watershed during average rainfall conditions during the mining process. This analysis would benefit from including a dry season analysis to project the effects of the proposed changes when flows are lowest and most critical ecologically. Dry season forecasting would show how this reduced streamflow in the Horse Creek subbasin influences the Peace River during the dry season. To understand the impacts from mining, it would be more useful if the analysis was conducted using monthly average streamflows. | Included in summary response above. |

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| 000000542-76 | Percy Angelo | Private Citizen | G. The DAEIS Surface Water Discussion Fails to Provide a Cumulative Discussion of Impacts The surface water discussion entirely fails to address the cumulative impact of surface water flow losses, the loss due to proposed mines in addition to the impact of existing and past mines. It does not address actual flow impacts within the CFPD. It evaluates all impacts so far downstream as to conceal impacts within the watershed. It further fails by identifying individual mine impacts on an annual average basis, rather than a seasonal discussion which is important for habitat impacts (a problem which is addressed below). | Included in the summary comment response above. |
| 000000542-186 | Percy Angelo | Private Citizen | Ex. 4, Terrie Lee and Geoffrey Found, The Interdependence of Headwater Wetlands, Groundwater Levels and Streamflow Before and After Mining, US Geological Survey (2010). D. AEIS Improperly Compares Proposed Mining to Past Mining Excesses. p.8 E. The DAEIS Improperly Relies on Annual Average or Other Long-Term Average Data. p. 10 -The DAEIS relies consistently on annual or even longer term average data and thus fails to consider seasonal variations, as well as drought and other conditions, which are concealed by long term averages- | Included in the summary comment response above. |
| 000000547-14 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Surface and Ground Water. Water flow has been affected by agriculture, urbanization and mining within the region, but the mining industry has substantially reduced its daily water use from the practices of the 1970s and 1980s. It is estimated that surface water delivery to the Charlotte Harbor estuary via the Myakka and Peace rivers will be decreased by less than seven percent over the duration of projected mining (2019¬ 2060) by the four proposed and two reasonably foreseeable mines as compared to the base case (2010). The Southwest Florida Water Management District has capped allocations beyond the current except for agriculture, where there is a required 50 million gallons per day reduction in water use between 2006 and 2025. By 2060 flows are predicted to return to the pre-mining condition except at the potential Pine Level/Keys Tract, where mining is expected to extend beyond the period of study. Under Alternative 1 - No mining - water use is expected to remain the same or increase due to population growth, increasing urbanization and other demands for the water. Water quality in surface waters is expected to be more affected by urbanization due to increased impervious | Included in summary response above. Flows in the Final AEIS were compared to the no-mining alternative and to existing conditions. |

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| | | | surfaces, fertilizer use and other pollutants from developed land uses. The impact on surface water flows is being compared to the existing impact of mining industry operations and other surface water uses, rather than to flows without mining uses. | |
| **SW-5** | | | **This group of comments pertains to requests for more water quality data, or analyses related to no degradation as opposed to compliance with State water quality standards.** | **Mines tend to discharge in the wet season when the surface water is plentiful and the applicable surface water management system capacity is exceeded. Therefore, the discharged mine water quality affects downstream areas during high flows, not during the lowest flow conditions. To address the water quality related questions, box and whisker plots and other statistical metrics are presented in Appendix D of the Final AEIS and the water quality section of Chapter 4. The available data remain limited; over the last 60 months, the mines normally discharged only about 30 percent of the time. The Final AEIS review is based on data adequate to assess the potential compliance with standards. For example, the FDEP requirement for planning list assessment (FAC 62-303) is a minimum of 10 values within last 10 years. Regarding new criteria, the numerical nutrient criteria are evolving and the discussion in the Final AEIS was updated to include the latest information in Chapter 3.** |
| 000000272-9 | Sarasota County, FL, Christine Robinson | County Government | Table 4.21. Mean Water Quality Monitoring Data for Four Corners Mine; Background, Outfall 001 and Downstream Locations, 2005-2010: This table shows data for background and downstream locations but only includes 16-21 samples over a six year time period and does not include any adjustment for seasonality or statistical analysis of the data. Because this data sample is not statistically significant and does not account for any type of seasonal adjustments, it should not be considered representative of potential impacts from mining discharges. This analysis should include a statistically significant, well documented analysis of mining discharges into the Peace and Myakka waterways. | Included in summary response above. |
| 000000280-42 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.6.2 Evaluation of Effects of Proposed Mines on Water Quality P. 4-107 (begin) Tables 4-19 to 4-26 Although it is understood that phosphorus levels are naturally higher in the study area it should be noted that all the outfall TP values do not meet the proposed NNC and are sometimes substantially higher that background/upstream values, as noted in the AEIS. | Included in summary response above. |

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| | | | Although generally meeting existing state standards, other parameters observed to be elevated over background levels include sulfate, fluoride, suspended solids, and conductivity, as noted in the AEIS. This section should include an examination of impaired waters and TMDL status of receiving water bodies, anticipated pollutant loading and Numeric Nutrient Criteria compliance. Also (Appendix B Section 5), given the wide variability in sample values, as noted in the AEIS, the use of box and whisker plots to present the monitoring data results would be very informative in illustrating the range and distribution of concentrations observed. Long-term average values have only limited usefulness in assessing the potential for environmental effects. P. 4-121 - 4-123 As mentioned in the General Comments section above, the no water quality impact inference is based on the limited past quarterly sampling records which apparently missed majority of high and low concentrations of physical, chemical and biological constituents. Therefore, an actual water quality analysis for each proposed mine site is needed. Even the quarterly sampling records (Figure 4-56 on Page 4-121) show the increased acidity and other parameters on early 2010. 4.6.5 Overview of Phosphate Mining Effects on Water Quality Pollutant loading and concentrations need to be quantified through appropriate analyses to assess overall cumulative impacts. Drawing conclusions of no impacts based on reference sites as short term consequence is irresponsible. Water quality compliance should be shared by all stakeholders in the watershed. Current design criteria for BMPs do not meet new numeric nutrient standards and mining should take a lead role in assuring receiving waters are protected. | |
| 000000351-11 | Debra L Highsmith | Private Citizen | Extremely limited water quality measurements at mining sites over just six years during wet season events is completely unacceptable. | Included in summary response above. |
| 000000371-2 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | 2. Surface Water Quality The Peace River Water Treatment Plant is a conventional surface water treatment facility using aluminum sulfate as a coagulant primarily for color removal. The treatment facility does not (and cannot) reduce dissolved solids (such as sulfate, chloride, sodium, etc.), which are regulated drinking water parameters in Florida. Although average water quality data from mine discharges (presented | Included in summary response above. |

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| | | | in the Draft AEIS) are somewhat informative, they don't tell much about potential worse case impacts, which are caused by specific events and not averages. The evaluation should consider what the maximum observed parameter/constituent values were, the number of observations available, and the number that were above water quality standards to aid in assessment of impacts to drinking water supplies. | |
| **SW-6** | | | **Several comments were related to the discharge from future phosphogypsum stacks, their impact on water quality, if the mines require new phosphogypsum stacks, or similar issues from the fertilizer and chemical plants.** | **Section 1.3 of Chapter 1 explains how phosphogypsum stacks are outside the scope of the AEIS. The matrix (ore) separation from sand and clay is proposed to continue at existing and proposed beneficiation plants. A discussion of these impacts is included in Chapter 4 and Appendix D.** |
| 000000371-4 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | For example, considerations of potential impacts resulting from chemical processing of the ore, and/or issues related to phosphogypsum stacks and their ultimate closures and the potential for the discharge of poor water quality impacting downstream water quality are not discussed in the AEIS. Phosphogypsum stacks are located in the study area and their number and extent are directly a result of past and future phosphate mining. The proposed mines will increase the need for such facilities and add to the recently observed impacts/costs of stack closures. They have not only environmental impacts on water quality, but also potential economic impacts for existing /future public utilities using surface water supplies downstream of mining in the CFPD and such impacts need to be included in the AEIS. | Included in summary response above. |
| 000000371-8 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS also needs to address shorter term water quality issues related to public supplies caused by phosphogypsum stack closures (which take years and result in major changes in water quality under drier season flows) - what are the potential economic impacts of new treatment processes to address these changes in water quality, additional storage capacity to reduce water quality impacts or the development of new water supplies to avoid poor water quality impacts? | Included in summary response above. |
| 000000371-24 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Water Quality. Agreed, discharges from actively mined areas under wet-season conditions do not "normally" pose water quality issues to downstream water resources. However, daily discharges in wet-season and dry-season from processing plants, spills, and phosphogypsum stack closures do pose significant water quality issues not included in the draft AEIS. | Included in summary response above. |

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| | | | Potentially the greatest impacts on water supplies may be associated with secondary impacts of expanded mining. Secondary impacts such as processing, beneficiation, and ultimately phosphogypsum stack closure impacts are of concern relative to water supply. | |
| 000000371-25 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Will ore processing still be done at existing facilities within the CFPD? The AEIS ignores these issues relating to ore processing within the study area. Based on the recent history of water quality issues within the study area related to the closures of phosphogypsum stacks, it seems only logical that the environmental and economic issues related to such activities should be included in the AEIS. | Included in summary response above. |
| 000000371-39 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Although 404 is the big issue, it would seem that the ACOE (as previously stated) has other interests under water quality. Where secondary impacts of mining impact downstream water quality it would seem the ACOE AEIS would address these - such as phosphogypsum stacks. | Included in summary response above. |
| 000000371-42 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "Phosphate mining operations as currently conducted by the phosphate mining industry in the CFPD fall into four major categories.. Site preparation Matrix excavation and conveyance Beneficiation a Waste management and mine reclamation" "The last major component of phosphate mining as currently conducted within the CFPD includes the management of the clay and sand tailings from the beneficiation plant." The AEIS should also consider the final step of chemical processing plants which includes fertilizer production, creating the byproduct phosphogypsum and also requires the decommissioning of phosphogypsum stacks. Both accidental and permitted releases from phosphogypsum stacks to downstream rivers have occurred and have had major impacts to water quality and the in-stream environment. The daily discharge of minimally treated phosphogypsum storm water downstream during decommissioning of phosphogypsum stacks takes years to occur and has multiple impacts to downstream water quality both over short and longer term periods. These chemical processing impacts obviously fit into the above general issues listed in the AEIS. The AEIS assumes "severance" or completion of the mining process with production of the ore and it would be, if the ore was shipped somewhere else, but | Included in summary response above. |

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| | | | chemical processing and phosphogypsum stacks certainly are parts of mining activities in the CFPD, and have and do cause impacts with water quality and water supply. | |
| **SW-7** | | | **Many comments stated that the approach to analyzing the surface water hydrology needed to use a specific approach that used complex modeling integrating the surface water and groundwater hydrology into one simulation package, or a even a different simulation approach than the one selected.** | **Additional information about surface water models and their availability is included in Appendices G and J.**<br><br>**While the runoff prediction approach looks simple, there are complex relationships that are embedded in the factors (both land use-based runoff coefficients and the correction factor) that were calibrated to observed data. Many of these complex interactions are implicitly included in the runoff estimate. On a long-term basis, the surficial aquifer recharge and discharge (baseflow) are included in the monitoring data used to calibrate the coefficients used in the AEIS.** |
| 000000272-101 | Sarasota County, FL, Christine Robinson | County Government (also in Groundwater) | No integration of surface water impacts and groundwater withdrawals in modeling. | Included in summary response above. |
| 000000280-35 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.2.3 Surface Water Resource Evaluation Methods P. 4-20 first paragraph and Appendix E In the Surface Water Analysis Methods section the AEIS states that ...a reasonable quantification of the potential reductions in offsite flow rates during active mining was needed to evaluate the reduction of runoff that may occur on a long-term average basis. While this statement is true, an evaluation of the variability in flow reductions and subsequent resultant flows under a range of conditions should also be completed. An expanded analysis of off-site flows for varying annual rainfall conditions, and a seasonal analysis should be included. Environmental impacts are just as, or more, likely as a result of seasonal or periodic effects than long-term average conditions. The health and sustainability of downstream ecosystems are dependent on a certain range of volume, timing, distribution and quality of surface water runoff and base-flows. The interaction with the surficial aquifer system cannot be ignored and warrants the use of an integrated model. In order to provide an adequate analysis of potential impacts of mining or other watershed scale land use activities, a continuous simulation of the duration of mining activity for a series of hydrologic scenarios must be provided and compared to current and historic | Included in summary response above. The Rational Method and single storm event modeling were not used. |

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| | | | natural system conditions. The methodology employed is a gross oversimplification of a very complex process and should not be relied upon for decision making regarding hydrological impacts. How does reclamation restore basin runoff? Are they set to historic grade lines, runoff conditions and soil matrices? P. 4-20, line 15-16 and Appendix E The AEIS reads the method (of surface water analysis) should account for a seasonal component since central Florida has distinct dry and wet seasons. However, this seasonal component was completely ignored by using the annual average rainfalls in the Appendix E. The ACOE should either adequately address these conflicts and errors in both assumption and method, as well as their impacts on the conclusions in the final document or openly discuss the inadequate assessment and the resulting error(s) in the conclusions. P. 4-21, lines 3 ~ 26 and Appendix E The rational method used in the AEIS is the simplest and the most widely used for runoff analysis. But it has major limitations. One of the major limitations is that the method was developed for a small catchment area in the order of up to few hundred acres mainly for storm sewer design. Note that the size of Peace River Watershed alone is approximately 1.5 million acres. Furthermore, the rational method does not take into account for major hydrologic components including spatial and temporal variation of rainfall, stream flow runoff within the watershed considered, antecedent moisture conditions, etc. Considering these limitations, the hydraulic impact of the proposed mine ditches and berms and impoundments cannot be evaluated with the rational method. Note the proposed activities described on page 4-22: Large areas that are to be mined (mine blocks) are surrounded by ditch and berm systems before active mining operations and the ditches support surface water management for the active mine areas until those lands are reclaimed and subsequently released from the regulated areas. A more advanced overland flow calculation method needs to be applied (e.g., MIKE SHE / MIKE-11, MODHMS, or SWMM, etc.). Also, AEIS cited that the Janicki (2010) report used the same rational method for pollutant loading calculations for Charlotte Harbor National Estuary Program. Note that the Janicki report used monthly rainfall (not the annual average rainfall). But AEIS used the annual average rainfall, and this over-simplification is not | |

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| | | | acceptable. | |
| 000000542-177 | Percy Angelo | Private Citizen | Ralph Montgomery comments that it is regrettable that the Corps decided not to use the Peace River and Myakka River Integrated Surface Water and Groundwater Models developed by SWFWMD. Ex. 8, at 2. We understand other experts have asked the same question. The Integrated models already developed to address this area should be used. There is a very real concern that the decision to limit collection of data is based on a desire to meet your obviously aggressive, perhaps otherwise unachievable deadline. Other unusual limits in the SOW, such as the limitation of site visits to 40 hours, additionally suggest that this is true. These artificial limits on data collection are clearly improper. Unfortunately, the decision not even to use existing data and existing models raises the even more serious question of whether the Corps was concerned that they would demonstrate even more significant mining impacts. | Included in summary response above. |
| **SW-8** | | | **These comments are related to how the AEIS could project land use and effects for 50 years in the future.** | **In the Final AEIS Appendices G and J now include additional discussion on the model selection, limitations, and assumptions. The mine capture areas were developed for the Applicants' Preferred Alternatives and two other offsite alternatives. The team reviewed available database information, but no land use projections were found which projected land use through the duration of the proposed mine projects. Therefore, general trends for urban development and the proposed mining were the primary land uses that affected results and those trends were better documented over the next 20 years. Given the uncertainties of the land use projections, timing of the future foreseeable mining, and the high variability of rainfall and runoff, a more detailed model would not necessarily represent future conditions with better accuracy.** |
| 000000369-24 | Manatee County, FL, Ed Hunzeker | County Government | (App. E, Section 2.3.5 Land use specific Runoff Coefficients) The validity of the Janicki (2010) land use specific runoff coefficients over a 50-year time span is questionable. They were not developed for applications of this temporal scope. Additionally, these coefficients are seasonal coefficients and are by their very definition unusually sensitive to regional climate cycles (documented in the AEIS references). Robust, long life cycle land-use specific runoff coefficients must be | Included in summary response above. |

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| | | | specifically developed for a successful forecast model. (App. E, Section 2.4 Method Validation Result) Interactions between rainfall and the value of the long term hydrologic factor (J) pointed out in Section 2.4 were not comprehensively examined. Instead, which simply posited the monotonically decreasing trend in the long-term hydrologic factor (J) values versus rainfall present in Table 4 indicates a response to lower annual rainfall totals from effects of basin storage characteristics. However, rainfall and land use factors are both individually already in the model and this behavior may also point to a significant, un-modeled interaction term. This behavior needs to be analytically examined if it continues to appear in the forecast model. It is not adequate to simply dismiss this behavior or describe its mitigation (Section 2.4, Page 16, last paragraph). (App. E, Section 3.0 Land Use Projections ) Future land use layers that represent a fundamental watershed characteristic in the surface water model are developed using GIS-based projections of contemporary land use and cover trends. This approach ignores the many factors that may affect future land use distribution in the Central Florida Phosphate District (CFPD) (i.e. urban development, agricultural development, transportation networks, conservation lands) that are widely known to the area's Policy, Planning, Transportation, and Economic entities who have published voluminous appreciations of future growth patterns over time frames approaching, if not congruent, with the time frame used by the AEIS hydrologic model. Aggregating the region's official future land use projections and building the model land use and cover GIS layers informed by these appreciations is the only credible means of forecasting watershed characteristics 50 years in the future. (App. E, Section 4.0 Capture Area Predictions) Mine capture area forecasts used in the analysis are simple representations of idealized mine plans and do not reasonably model the mine impact characteristic used by the surface water quality model over the very long time span simulated by the model. The mine capture area needs to be statistically modeled to a level that predicts upper and lower confidence intervals on mine capture area with respect to time. A credible model will also factor in economic and regulatory factors known to affect mine operations. | |

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| 000000371-63 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Given the current state of economic affairs and an expected long recovery time, previous long-term landuse projections seem unrealistic and/or at best very high estimates. Converting large portions of the watershed to urban in the AEIS model is certainly going to result in more runoff than currently occurs and may seriously underestimate mining impacts. In the recent past most reclaimed lands have initially reverted to a mixture of natural and agriculture land uses. Florida currently has a strong program to require storm water retention in urban development reducing run off rates. Due to new nutrient and TMDL regulations urban runoff may be even less in the future. If urban development does occur then public water supplies will need to come using more surface water sources since ground water is already over pumped (SWUCA). Given these conditions, the estimates of greater flow over time seem unreasonable or at least high estimates. Wouldn't it have been more conservative to also analyze existing and much slower land use changes? | Included in summary response above. |
| 000000371-90 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "Projections in land use changes were developed primarily based on the rate of change observed since 1990. Landuse projections through 2060 were developed in 10-year increments (2020, 2030, 2040, 2050, and 2060)." The reference period selected was a very high growth period. Seems unlikely that the same rates of growth will continue into the future. | Included in summary response above. |
| **SW-9** | | | **Comments were submitted on the Whidden Creek gypsum stack, which was identified by CHNEP as a total phosphorus source to the Charlotte Harbor.** | **Information on the Whidden Creek gypsum stack is provided in Appendix D of the Final AEIS, which includes a list of documented phosphosypsum stack and CSA spills and related impacts.** |
| 000000371-52 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "While peak inorganic phosphorus concentrations in the Peace River and upper Charlotte Harbor remain high compared to rivers and estuaries that are not in phosphate-rich basins, the investigators reported that the phosphorus concentrations have decreased dramatically since the early 1980s (by as much as an order of magnitude at some locations)." True, the observed historic positive changes can be directly linked to alterations in discharge practices by mining operations. More recent PRMRWSA reports however indicate the return of very high OP levels following the start of decommissioning of the Whidden Creek phosphogypsum | Included in summary response above. |

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| | | | stacks. | |
| 000000371-59 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "While peak inorganic phosphorus concentrations in the Peace River and upper Charlotte Harbor remain high compared to rivers and estuaries that are not in phosphate-rich basins, the investigators reported that the phosphorus concentrations have decreased dramatically since the early 1980s (by as much as an order of magnitude at some locations)." This statement is true, given the older report cited. However, more recent Peace River Facility HBMP Annual Data reports (2008 through 2011) submitted to the District have shown recent marked orthophosphorus increases in the lower Peace River and upper Charlotte Harbor due to dry season discharges during closure of the phosphogypsum stacks in the Whidden Creek subbasin. | Included in summary response above. |
| 000000542-119 | Percy Angelo | Private Citizen | The water quality discussion also fails to consider the impact of spills on water quality. There is extensive evidence that the phosphate industry is subject to spills from its clay settling areas and from its gypstacks and that those spills have had devastating consequences for the business and environment of Florida. A list of known spills was provided to the Corps in connection with the DAEIS. FIPR admits to some significant spills on its website. Water Quality, fipr.state.fl.us/Phosphate Primer. They include a spill into the Alafia in 1997 and two spills in 2004 from heavy rains. In addition to the listed spills, we know, and the Corps knows, that there were in fact intentional spill releases in 2004 at several gypstacks due to heavy rains. These releases were conducted pursuant to Consent Orders issued by the FDEP because the gypstack wastewater management systems couldnt respond to the load. See our April 20 and April 25, 2011, Scoping Comments and Angelo April 19, 2011 submittal. See also Ex.25 (USEPA listing and studies of mining and mineral spill events). Just at the beginning of July it was reported that the phosphate facility owned by PCS Phosphates in White Springs had spilled as a result of Tropical Storm Debby, confirming that spills are a very current problem. See Ex. 26. The continuing drama of spills and threatened spills at Piney Point is referenced in Exhibit 27. In 2011 there was a spill of some 170 million gallons from Piney Point into Bishop Harbor (after earlier spills and responses described in our previous filings). In the most recent Piney Point developments the state sold the property | Included in summary response above. |

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| | | | to HRK Holdings to use the side for dredging spoils from the Port of Manatee. As HRK was facing bankruptcy, the state then waived the requirement that a protective dirt cover be installed on top of the site liner. The liner tore, eventually spilling 2700 gallons per minute of contaminated water ditches leading to Bishop Harbor and Tampa Bay, and leaving dredging residues. It was claimed that the state was aware of the torn liner. Just this week it was reported that another Piney Point spill may be imminent, with the state telling HRK that it must reduce water inputs at the site by 153 gallons per minute to avoid exceeding capacity by October 1. That was before Tropical Storm Debby. The so-called financial assurance requirements for managing the problem are essentially unsecured. | |
| **SW-10** | | | **Several comments called for more discussion on TMDLs or impaired waters.** | **The Final AEIS includes a discussion of impaired waters in the water quality section of Chapter 3 and Appendix D. Note that most of the impairments included in the comments are not in the Peace River Watershed or in subwatersheds within which the Applicants' mines are located.** |
| 000000387-5 | Mary Olsson | Private Citizen | I refer to the following negative impacts in past approved operations: 1. 2004 FDEP Report regarding 30 MILE CREEK AREA: negatively impacted by Phosphate Mining & identified as Impaired in 2004 due to its sustained problematic Dissolved Oxygen levels. With such results, how have your assessments modifications incorporated to address Seasonal water quality & flow levels near all planned Phosphate Mine operations & Phosphate Fertilizer plant operations? 2. IMCs KINGSFORD Phosphate Fertilizer Chemical Plant: Polk Co. near the Alfia River. Sampling done in AUG 2008 (3 years after plant closed) & finalized in NPDES REPORT # FL0000256., published in FEB 2009. | Included in summary response above. |
| 000000542-108 | Percy Angelo | Private Citizen | M. The Water Quality Discussion Fails to Consider the Primary Impacts on Water Quality from Mining. -Studies by the state have shown serious water quality impacts from mining-When actually studied, it is clear that phosphate mining operations have caused significant water quality impairments on streams within the CFPD. In 2004, as required by law, the FDEP prepared a TMDL (Total Maximum Daily Load) Report for Thirty Mile Creek, a tributary to the North Prong of the Alafia River in Polk County. | Included in summary response above. |

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| | | | www.dep.state.fl.us/water/tmdl/docs/tmdls/final/gp3/ThirtyMileCreekDOTMDL.pdf. See Ex.18. The report was required because of water quality violations in Thirty Mile Creek in which the dominant land use, by far was phosphate mining, over 61%. Agriculture was less than 15%, municipal discharges were considered insignificant. Id. at 19-20. Violations of standards for Total Nitrogen (TN), Total Phosphorus (TP) and Dissolved Oxygen were identified. Violations varied by season, summer being the most critical condition. Significantly, the report identified an unpermitted, unmonitored discharge from one of the phosphate mining areas which was very high in TN. Bottom line, this formerly mined area, also the site of beneficiation and chemical processing operations, was a significant source of water quality damage both within its watershed and downstream in the North Prong of the Alafia. Similarly, a 2008 water quality inspection for the Kingsford mine and processing facility, closed in 2005, reported water quality violations of pH to the North and South Prongs of the Alafia, iron to Mizelle Creek and Radium 226 and 228 to the South Prong of the Alafia. ftp.dep.state.fl.us/pub/labs/lds/reports/9501.pdf. See Ex. 19. This is the same area as that addressed by the ThirtyMile Creek TMDL study. The South Prong of the Alafia was reported as showing stress' from an upstream source. (Part I, page 3. Many more parameters were not sampled because of lack of FDEP lab capacity). Algal growth potentials at all sites in the area were well above the problem thresholds, including at the control site, indicating there is nutrient enrichment related to the Mosaic Kingsford Mine discharge in this portion of Thirtymile Creek...' Id. at 5. Chlorophyll-a was also high, id., indicating the presence of algal growth. The discussion notes that the so-called control site, in the middle of the mining area, was cause for concern' indicating there may be a source of nutrient enrichment in that area of the mining operation. Id. at 6. Even closed sites and sites without apparent discharges present ongoing damage risks. | |
| 000000542-111 | Percy Angelo | Private Citizen | While it never recognizes the problems identified in the ThirtyMile Creek TMDL study, the DAEIS nevertheless pretends that the very fact that the TMDL program exists means that SWFWMD will fix any problems. 4-198, 328. This is clearly fanciful, the Kingsford mine closed years ago and | Included in summary response above. |

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| | | | nothing has changed. The Mims appeal of the Mosaic MegaWUP, Ex. 10, shows that in fact the mining company is using its aquifer withdrawals to dilute its effluent (an improper practice). The state is carefully avoiding any effort to identify problems, and the DAEIS is complicit in that effort. Without calculation, and based on a discussion which excludes problems such as ThirtyMile Creek, the DAEIS concludes that water quality impacts are not at a large enough scale to cause measurable downstream impacts. 4-238. In support it cites Horse Creek monitoring, despite the fact that Horse Creek to date is relatively unmined. 4-239. While the Thirtymile Creek report shows that the DAEIS conclusion is in fact not true and that downstream impacts have been measured and are severe, the reality is that if you go far enough downstream you can hide any impact. This apparently is the strategy of the DAEIS, go far enough outside the zone of influence that you cant measure the damage anymore. As noted above, this simply writes off the environment within the CFPD. It is improper. | |
| **SW-11** | | | **Commenters requested that the effects of climate change, related low rainfalls, and seawater intrusion be more closely examined.** | **Additional discussion and references on climate change are included in Appendix G of the Final AEIS. The AEIS evaluated mining effects under low rainfall years as noted in the comments. The focus of the impacts is on the delivery of water to downstream estuaries.** |
| 000000017-4 | Kristi Patel | Private Citizen | Consideration be given to changing present permitting standards of dam/water retention due to previous study by Post/Buckley Peace River Impact Study...the justification for water impact was not sufficient due to study only using existing information. They heavily focused on "theory" of Trans/Atlantic Occilating Factor"....therefore by their own documentation we are potentially "fixing to have a flood" so since this has come into document phase...perhaps we "must needs" or it would "behoove" us to address this very important issue. | Included in summary response above. |

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| 000000373-13 | Audubon Florida, Eric Draper | Environmental Organization | Potential effect of climate change on rainfall and seawater intrusion related to sea level rise: The final AEIS should assess worst case scenarios in which climate change induced severe droughts and sea level rise may cause saltwater intrusion to amplify the effects of water use and diversion related to phosphate mining. Then such scenarios could be dealt with through drafting permits that call for periodic review of impacts and background conditions | Included in summary response above. |
| 000000393-28 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the climate change and sea level rise review. The DAEIS devotes eight lines to the climate and sea level rise. CHNEP has completed extensive review of climate change vulnerabilities that can be found at www.chnep.org/CRE.html. The summary is at: www.chnep.org/GrantsReceived/CRE/VulnerabilityAssessment2-19-10.pdf. Climate change drivers include air temperature, air chemistry, water temperature and water chemistry. Climate change stressors include changes to rainfall, storm severity, humidity, drought, wildfires, hydrology, salt water intrusion, sea level rise and geomorphic changes. Changes in many of the drivers and stressors of climate change have been measured within and downstream of the CFPD. These include average air temperature, days per year over 90 degrees F, rainfall delivered in the rainy season sea level rise and evapo-transpiration. Much of the DAEIS analysis relates to these changing conditions that will be exacerbated by climate change factors. However, past conditions are applied throughout the analysis. Section 4.11.6 is the opportunity to suggest changing condition adjustments to consideration of alternatives. For example, over the past 100 years, 6 percent of annual rainfall has moved from the dry season to the rainy season, creating wetter rainy seasons and drier dry seasons. Drops in river flow contributions may exacerbate the effects of sea level rise by increasing salinities, pushing species up the system. This may put the DeSoto County bull rush marsh and Peace River/Manasota Water Supply Authority intake at risk. CHNEP requests a methodical assessment of how each driver and stressor is exacerbated or ameliorated by the phosphate mining and processing alternatives. | Included in summary response above. |

## Surface Water and Water Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000542-81 | Percy Angelo | Private Citizen | As noted below in Section I, in connection with land use effects on rainfall, there are scientific studies by prominent meteorologists, ignored by the Corps, which tie rainfall changes to development leading to changes in land use and elimination of wetlands. The USGS has also shown that flow losses are tied to overpumping of the Floridan aquifer by agriculture and mining. SWFWMD, supported by the mining companies, has attributed the rainfall loss primarily to the Atlantic Multidecadal Oscillation, or AMO, a larger climatic event having to do with variations of water temperatures in the Atlantic ocean (conveniently the AMO has a spectacularly irregular period, making it hard to predict its impact or readily test its hypothesis). Oddly, the essentially unmined Myakka has NOT shown losses, despite the AMO. 4-197. The DAEIS never acknowledges or considers these much more realistic explanations. Besides the failure to look at meteorological rainfall studies, what is wrongheaded about the Corps approach is the failure to look at flow losses upstream, within the CFPD, at the vicinity of the mines. Even if the AMO has an effect on regional flows, a conclusion which in fact explains very little, that does not mean that flow losses from activities such as mining and localized climate impact within the CFPD are not significant and shouldnt be considered. | Included in summary response above.<br>Both the Peace and Myakka River basins have also been impacted by irrigation return flows by increased row crops. This has been documented by the SWFWMD. Marshall, et al. (2004) paper on land use's effect on rainfall (commentator's Ex. 16) were related to large scale changes that have occurred in the Everglades, Kissimmee River basin, and the overall urbanization of Florida since the turn of the century. The SWFWMD review of data, including rainfall and streamflow, is more detailed than this paper and, thus, are a better reference. |
| **SW-12** | | | **Several commenters noted that springs have been lost and flows in the Little Manatee River have diminished as a result of mining.** | **Surface water results, as described in the surface water section of Chapter 4 and Appendix G of the Final AEIS did not include the Little Manatee River because there are no alternatives situated in the drainage area. Reduced river flows may have been altered by past mining activities and a review of these is provided in Chapter 3.** |
| 000000013-2 | Norma and John Killebrew | Private Citizen | 1) Our river, the upper reaches of the Little Manatee River, has been going dry for long periods of time since 2008. We have documented pictures of the river from 2007 and flowing to present day. The cause of the river going dry is that mining and subsequent reclamation has filled openings in the karst in the bed of the river with sand apparently transported there due to reclamation of mining depths to 60 feet deep. | Included in summary response above. |

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| 000000013-4 | Norma and John Killebrew | Private Citizen | Our part of the Little Manatee River now functions as a ditch...no springs. 2) We have lost a number of springs on our property. Springs that one time fed the Little Manatee River and were documented by Mr. M. Stevenson, Hillsbrough County mine permitting, and Ms. D. Hart, EPC and FDEP. They came out to our property in or about 2009 and documented these springs. Ms. Hart who supervises Mosaic mining was totally unaware of these springs. This unawareness of our springs makes us concerned for other missed springs. These documented springs are now gone. Carefull documentation of wetlands and springs is needed. | Included in summary response above. |
| 000000013-8 | Norma and John Killebrew | Private Citizen | 6) There are and will be (presently permitted) massive slurry ponds in the Four Corners area, particularly with the boundary of Hillsborough County ...fifteen to be exact. Each totals about 500 acres with most combined to reach 1700 acres...none less than 1300 acres combined.One located at the intersection of 39 and 674 will be about 1500 acres and is within five miles of two huge sinkholes. Further, Four Corners mine draws upwards to 65 mgd from wells in this area. Another separate well is sitting right next to one slurry pond (1500 acres) and draws 6.5 mgds a day to supplement the Alafia River to replace water Mosaic draws from Lithia Springs....talk about checkers....move then move...then move again playing with water sources. | Included in summary response above. |
| **SW-13** | | | **Commenters requested that the potential mining effects on North Port's water supply system be analyzed.** | **The potential direct and indirect effects of mining the Pine Level/Keys Tract, as an offsite alternative, on the Big Slough subwatershed are described in the surface water resources section of Chapter 4. The potential cumulative effect of mining Pine Level/Keys Tract as a reasonably foreseeable mining action are described in the cumulative impact assessment section of Chapter 4. Because there is no long-term flow record allowing more detailed analysis and the fact that SWFWMD has indicated it will be reviewing this area in greater detail to update the Minimum Flow and Level report, the Final AEIS could only qualitatively analyze the potential effects on the North Port water supply of mining the Pine Level/Keys Tract.** |
| 000000194-1 | City of North Port, Elizabeth Wong, P.E. | Municipal Government | The City of North Port is concerned with the cumulative impacts of the future Pine Level/Keys mine within the Big Slough watershed on the City's major raw water supply, as the | Included in summary response above. |

## Surface Water and Water Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | City has an approved SWFWMD Water Use Permit which allows water withdrawal from the Big Slough (aka Myakkahatchee Creek ) when the measured flow at the USGS gage 02299484 at Water Control Structure No. 101 is over 10 cfs.* The Draft AEIS Executive Summary and Appendix D addressed the impact of the Pine Level/Keys mines by evaluating data on an annual basis and not on a seasonal basis. Page 27 of the Executive Summary indicates that "With the mine's effect accounted for, the annual average discharge in 2060 was estimated at 202 cfs, or a reduction of approximately 6 percent." * Please indicate whether the 6 percent impact on the Big Slough annual average flow is significant or not and the statistical basis of the analysis. * Please provide the analysis of the effect of the Pine Level/Keys mines on the Big Slough flows during the dry season as this is the time of the year when the mines will have the most impact. For example, please indicate the percent change in the number of days the flow in the USGS gage 02299484 is anticipated to be less than 10 cfs when the mines are in operation. It is recommended that the seasonal impact of the mines on downstream flow be included in the Executive Summary, in addition to a discussion of the significance of the impact. * In Appendix E Table 9 on page 45, please indicate how the Dry Runoff Coefficient of 0.25 (without proposed mine) and 0.24 (with Pine Level/Keys mines) is derived for year 2060. These coefficients do not appear very different. | |
| 000000272-17 | Sarasota County, FL, Christine Robinson | County Government | Reductions in flow to Big Slough must be estimated separate from the cumulative effects to the Myakka River as is done in Section ES 7.3 because the City of North Port relies on Big Slough as a water supply and will be restricted in potable use based on flow. Again, annual averages are unsuitable to an assessment of withdrawal limitations. | Included in summary response above. |
| 000000282-1 | Allain Hale | Private Citizen | My concerns about the water supply to North Port, Florida were not addressed, so I am writing you about it. The proposed site of the Desoto Mine (aka the Keys Mine, or the extension of the Pine Level Mine) is directly over the Big Slough Watershed. This watershed is like a big sponge that retains water in wet or drought periods. One of the creeks that originate from this watershed is the Myakkahatchee Creek. This creek is the primary drinking water source for the city of North Port, In the draft AEIS, there was no mention of | Included in summary response above. |

## Surface Water and Water Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | the impacts to the Myakkahatchee, even thought the Keys mine is situated directly on its source. This is important, because although the Myakkahachee may be just a trickle, its a steady one. In wet times or drought periods, the creek delivers a steady flow to the city of North Port, a community of about 100,000 people. The phosphate mining interests have averred that, although there might be a loss of underground water pressure temporarily during the excavation of the Keys Mine, eventually the water table will return to its former capacity. That may be true, but the Myakkahatchee is little more than a seep, and it may not recover at all from this impact. If so, North Port will see its primary water source dry up overnight. In that event, North Port would have to import drinking water from nearby Charlotte or Sarasota Counties at a higher rate. | |
| **SW-14** | | | **These comments relate to the changes in the soil matrix after mining and its affect on runoff.** | **Additional text was added to the Final AEIS Chapter 3 and Appendix G to explain changes to the soils and to include an expanded discussion on the anticipated differences in runoff coefficients** |
| 000000280-59 | Lee County, FL, Roland Ottolini, P.E. | County Government | 5.2 Ona Mine Effects on Runoff Characteristics and Stream Flow P. 37, Table 6 This table shows land use-specific stormwater runoff coefficients for the Horse Creek and Peace River at Arcadia sub-watersheds without and with implementation of the Ona Mine. Although it was not explicitly stated in the text, it is surmised that the with mine values are for the post mining and reclamation condition. The reclaimed land will have a totally different soils composition than pre-mining conditions. How were the post mining Cd values determined? Was it assumed that the hydrologic soils group was the same for pre-and post conditions? The methods used are not clear and appear to be somewhat speculative. | Included in summary response above. |
| 000000371-48 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The mined "area is taken out of a given watershed or subbasin's surface water contributions to the watershed or subbasin's water budget except as allowed through discharges from the permitted NPDES outfalls. Over time, as portions of the mine are reclaimed and ultimately released from within the recirculation system, the total mine capture area is returned to the pre-mining condition, and its impact on the watershed or subbasin's water budget returns to zero." The | Included in summary response above. |

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| | | | evidence provided by historic and current mines suggests that the alteration of soil structure by mining enhances recharge to deeper aquifers following mining and results in long-term alterations or reductions of surface flows (streams). Due to reclamation changes in topography and the creation of water features, mined lands generally have continued to retain water (per DEP water quality concerns) and often only discharge downstream under higher rainfall events. Thus mining can impact both the timing and quantity of water flowing downstream. The AEIS does not adequately address the timing of impacted flows but rather relies on estimates of average annual values over extended periods of time. | |
| **SW-15** | | | **Several commenters provided input related to numeric nutrient criteria (NNC) and other water quality issues.** | **Chapters 3 and 4, and Appendix D, of the Final AEIS discusses NNC, including the requirements to determine impairment.** |
| 000000272-8 | Sarasota County, FL, Christine Robinson | County Government | Table 4.19. Phosphate Mine Discharge Mean Water Quality Values for Selected Active Mosaic and CF Industries Mine NPDES Outfalls: This table includes a column to include Class III Criteria for select water quality parameters including Total Phosphorous (TP) and total Nitrogen (TN). In February 2012, the Florida Legislature adopted Numeric Nutrient Criteria for state waterways that established TP and TN values of 0.49 mg/L and 1.45 mg/L respectively for the West Central basin. The TP values for each outfall is at least double the establish water quality criteria. A Water Quality Based Effluent Limitation (WQBEL) should be established for the Peach River by DEP prior to any future mining outfalls being permitted. | Included in summary response above. |
| 000000371-49 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS summarizes currently completed TMDLs within the study area. However, the State has proposed and EPA has accepted specific numeric water quality standards (as stated in AEIS). Using existing historic data, the AEIS needs to show how the various stream and river segment's water quality compares to the established standards. Will mining practices influence receiving waters? The AEIS states that higher concentrations of magnesium, orthophosphorus, alkalinity, and calcium were detected in water from streams at some of the reclaimed basins in studies by USGS. Existing available data needs to be analyzed to assess such increases in relation to recently adopted State numeric water quality criteria. It may be that alternate site criteria may be needed during permitting to address potential increases due to mining, and | Included in summary response above. |

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| | | | the AEIS needs to assess alternatives to meet these known higher standards. | |
| 000000371-86 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Water Quality The AEIS states that "under the currently applicable rules, FDEP certification of compliance with the applicable CWA provisions is likely but under the new pending NNCs, there is some question of whether state certification will be granted without requiring additional water quality improvement provisions... eventually load-based Total Maximum Daily Load analyses leading to Basin Management Action Plans will be likely in the AEIS study area, and these ultimately will affect the interests of phosphate mine operators in the future." Given this statement, and the fact that these new rules are in the process of implementation, isn't it incumbent on the AEIS to address how these new mines are going to meet these greater upcoming criteria especially the numeric criteria. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000015-1 | Kristi Patel | Private Citizen | Local/Regional Impact. . Impact of water etc to adjacent and nearby neighbors/residents that are self-mitigated by Industry without agency or regulation oversight. ie. Wells provided to neighbors due to private impact of water availability due to anthropogenic industrial impact. This "good neighbor" policy is fiscally responsible however has not been "quantifiable" historically as impact. It is potentially not "enigmatic" or atypical and information should be accumulated and accessed. | Private well mitigation practices by the mining industry is a WUP permit requirement. This is a common WUP requirement and while the mining companies likely maintain records of such work, the specifics are beyond the scope of this project. The Final AEIS includes an evaluation of the number of other user's wells that may experience more than 1.0 ft of drawdown as a result of mining withdrawals to support the four proposed new mining projects. |
| 000000199-6 | James Cooper | Private Citizen | The U.S.G.S. surveys have concluded that existing mining contributes to a loss in ground water level and loss of flow to the Peace River. But the draft AEIS assumes that even though you have the situation, it's the norm. Bu t its not the norm. The comparison should be what it is right now without mining, and what it is with mining. Theyre taking what the mining does and saying, this is the norm. Why is mining the norm if theyre not mining there.If they mine in a way that its less impacted, then we can change that; we can make it better. All I want to see is that they do the best they can to make it better and not to make things worse. | The surface, groundwater, and cumulative impact sections of Chapter 4 includes an expanded discussion of groundwater flows and relevant impacts to flows to the Peace River. |

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| 000000199-8 | James Cooper | Private Citizen | And the problem is, Charlotte County is totally dependent upon the water from Horace Creek, that is our only source of water. Horace Creek feeds into Peace River. And three of these mines will impact those creeks.So if we see reductions of Horace Creek, we dont have enough water as a result of that, our only alternative is to go buy it from, I guess Peace River Authority through Sarasota County, or somebody else. And we're going to pay a premium for it, yet they're not paying for the water they get.So were subsidizing the mining water and were paying for our own water. There's something about that that doesnt seem fair. | Horse Creek comprises about 10 percent of the contributing drainage area in the Peace River Basin contributing to the PRMRWSA intake. See Chapter 3 and Appendix G, for more discussion on the PRMRWSA intake effects. |
| 000000272-7 | Sarasota County, FL, Christine Robinson | County Government | The development of coefficients of runoff provided in Appendix E Table 5 is not documented to provide clarity in how the runoff coefficients were developed. The coefficients of runoff used do not match data develop for southwest Florida by the U.S. Geological Survey based upon local data. In the report Evaluation and Modification of Five Techniques for Estimating Stormwater Runoff for Watersheds in West-Central Florida, by J.T. Trommer, J.E. Loper, and K.M. Hammett, Water Resources Investigations Report 96-4158, the coefficient of runoff for non-urban watersheds is west central Florida was found to be 0.16. In this report the U.S. Geological Survey does note the following: The coefficient of runoff is the most subjective parameter estimated in the rational method and is the most probable source of error when applied to west-central Florida watersheds. This study went on to find that when modeling infiltration and other factors affecting stormwater runoff required modification of assumptions made in routine stormwater modeling programs such as USEPA Storm Water Management Model (SWMM) and should use site specific data to accurately estimate stormwater runoff volumes. There is substantial local gage data to more accurately model rainfall to runoff characteristics. This study should use that data and building block approach used in SWFWMDs MFL program to more accurately characterize the impact of phosphate minings impact on surface water resources. | Trommer, et al. (1996) coefficients were developed differently from those used to estimate runoff in the Final AEIS. Appendix J of the Final AEIS, Impact Evaluation Methods, and Appendix G, Surface Water Impact Analysis, describe the approach used to estimate annual runoff. |

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| 000000272-16 | Sarasota County, FL, Christine Robinson | County Government | Section ES.7.3 states that an annual decreased flow of the Peace River of 16 percent might be expected. The Peace River Manasota Regional Water Supply Authority is restricted from withdrawing water from the Peace River based on flow volumes. The AEIS should be revised to estimate how reductions in flow will affect withdrawals from the Peace River by the Authority. Annual averages are insufficiently detailed to estimate impact on potable water supplies. The same could be said for the environmental impacts to the downstream estuary. Reduction in flow caused by mining during heavy flows is much less important than during low flows. A more detailed analysis of the reductions in low flows should be included in the AEIS. | The surface water sections of Chapter 4 and Appendix G of the Final AEIS include low flow analyses. |
| 000000272-22 | Sarasota County, FL, Christine Robinson | County Government | Table 38 lists the TMDLs within the CFPD. The AEIS should clarify that TMDLs are only established where data is available so this table is not a comprehensive analysis of impairments in the CFPD. Most of the data is available in populous areas but most of the CFPD is rural. NPDES data should be assessed for compliance with Numeric Nutrient Criteria. NPDES discharges should be assessed in regard to contributing load to any downstream water bodies that are impaired. NPDES discharges should be assessed for compliance with OFW anti-degradation criteria for all downstream waterbodies. | The Final AEIS was reviewed and updated, with additional information on NPDES data and numeric nutrient criteria. This information can be found in the water quality sections of Chapters 3 and 4 and Appendix D. |
| 000000272-69 | Sarasota County, FL, Christine Robinson | County Government | Surficial Aquifer System Effects no mention is given to an evaluation of long-term effects to the surficial aquifer the only approach to preserving water levels in the surficial aquifer that is discussed is the use of perimeter recharge ditches, which only function during mining-associated dewatering but do not address post-mining impacts. | Chapter 3 describes how SWFWMD requires Environmental Management Plans (EMPs) to address minimization of impacts to the surficial aquifer. The consideration of mining's effects on the surficial aquifer in Chapter 4 considers these types of mitigation measures. |
| 000000272-86 | Sarasota County, FL, Christine Robinson | County Government | 3.1.4 Waste Management and Mine Reclamation Acknowledges potential effects of clay settling area and sand tailings reclamation on recharge rages to the Surficial aquifer system and to runoff/streamflow. | Comment acknowledged. Appendix G provides information on the effect of CSAs on runoff. |
| 000000272-108 | Sarasota County, FL, Christine Robinson | County Government | References reviewed for background on the effects of phosphate mining on hydrology: Garlanger, John E., Ardaman & Associates, Inc., 2002. Effects of Phosphate Mining and Other Land Uses on Peace River Flows, for the Florida Phosphate Council, Tallahassee, Florida. Mining has reduced groundwater withdrawals through increased recycling but concerns remain over potential impact to flow of Peace River. | Appendix G was revised and includes additional discussion on effects to the deep aquifer and low flow conditions. |

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| | | | Recharge to intermediate and Floridan aquifers >10?/year in northern Peace River basin, 1/year. Comes to contradictory conclusion that: A) recharge is not reduced after mining; B) increase in evapotranspiration may have reduced streamflow but this is offset by increased runoff. - If increased runoff offsets streamflow losses due to increased ET, by his equation recharge must decrease: - Streamflow {same} = Rainfall {same} (Evapotranspiration {increase} + Net Deep Recharge + ?Storage {same}) | |
| 000000272-110 | Sarasota County, FL, Christine Robinson | County Government | Reigner, Walter R., P.E., and Winkler, Cornelis, P.G., BCI Engineers & Scientists, Inc., 2001. Reclaimed Phosphate Clay Settling Area Investigation: Hydrologic Model Calibration and Ultimate Clay Elevation Prediction. for the Florida Institute of Phosphate Research. Examined concern that clay settling areas (CSAs) could result in greater runoff and increased flooding potential. Found that discharge from CSAs is less than anticipated due to storage in depressions and surface dessication cracks. Depressional storage increases with time due to further clay consolidation and surface subsidence. Concerns now shifted from flood prevention to providing adequate surface discharge and groundwater recharge to sustain stream flows (especially base flows). This study focuses on predictive modeling of clay consolidation and resulting topographic changes, and in turn, their effects on modeling and analysis of surface water hydrology. Concluded that CSAs discharge less surface water than previously expected. Discounts any significant release of water in a downward direction (recharge) due to high solids content and impermeable layer of clay at bottom of CSAs. Documented many important variables that make it difficult for hydrologic models to accurately and consistently predict the hydrology of CSAs. Result is that detention and retention is underestimated, peak & total discharge is overestimated. In an attempt to reduce peak discharges, the designed systems often do not maintain the volume and character of long-term discharge that occurred prior to mining. Because of continued consolidation and associate topographic lowering, storage in CSAs increases over time, reducing volume of water discharged until equilibrium is reached at about 30 years after reclamation. Immediately following reclamation, downstream protection from flooding impacts is needed. Ultimate CSA | Appendix G discusses the management of water in CSAs during and after mining, and the consolidation of solids in the CSAs over time with the related downstream effects on flow. |

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| | | | conditions need to be engineered to sustain base flow to downstream receiving waters. | |
| 000000275-4 | Helen King | Private Citizen | 4.4 The study does not recognize the impact of the mines in dewatering surrounding wetlands and streams or the fact that mine reclamation never fully restores the groundwater systems that feed these wetlands and streams.Interruption of groundwater flow to creeks and streams by CSAs is permanent but never discussed. Reclamation does not attempt to recreate the groundwater plumbing that flows towards rivers and streams. | The potential dewatering effects of mining on surrounding wetlands and streams, and the associated measures that are implemented to mitigate dewatering of habitats are discussed in the surface water section of Chapter 4 of the Final AEIS. |
| 000000277-3 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | Q.2-If discharges occur when capacity is exceeded and MWA uptakes occur at the same time, what is the potential for impacts on drinking water quality and quantity? Manasota Water Authority, the agency responsible for our drinking water, only harvests water when substantive flows in the Peace River are occurring. This could correspond to times when the mines containment capacity is exceeded and discharges of effluent are likely. | Discharges are regulated by the FDEP through the NPDES program as described in the water quality sections of Chapters 3 and 4 and Appendix D of the Final AEIS.. Discharges are normally during wet periods, or after a wet period when storage onsite is near full. Note that the PRMRWSA takes water at the end of the watershed and the active mining area does not exceed 4 percent of the landscape. Even at full discharge, the contribution from mining lands is relatively small. |
| 000000280-1 | Lee County, FL, Roland Ottolini, P.E. | County Government | Given Lee County's proximity to Charlotte Harbor, our review focused primarily on the potential impacts phosphate mining could have to the watersheds that drain to this significant natural resource. In summary, the document does not adequately address our previously stated concerns regarding phosphate mining and its impacts to Lee County's coastal and estuarine ecosystems. The analysis provided therein did not determine the potential changes of the volume, timing, distribution and quality of water entering the Peace and Myakka Rivers which are the major tributaries to Charlotte Harbor. | Comment acknowledged. The evaluations conducted focused on quantifying the magnitude of changes in river delivery to these estuaries. |
| 000000280-7 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4. The Water Quality Analysis is based on the past water quality data at the existing mine sites to conclude no adverse impact. Note that the referenced water quality data was measured on quarterly sampling frequency for merely six years (2005-2010). This is too short of period to the proposed project over the fifty-year mining plans into the future. More importantly, those quarterly samples most likely have missed the majority of extreme daily flows and concentrations. Even the AEIS states that the monitoring records confirm that offsite discharges from phosphate mines occur primarily | NPDES monitoring data in the vicinity of existing mines have been incorporated to the Final AEIS, with potential impacts discussed in the water quality section of Chapter 4 and Appendix D. Note that monthly data are required of mine operations, but can only be sampled when discharging. |

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| | | | during wet season or large storm events (page 4-123, lines 31 through 33) which apparently have caused downstream pollution. When the existing mines have been polluting the system, does it become intuitively obvious that additional mines pollute more? Nevertheless, the applicant asserted that long-term averages (water quality) generally are in compliance with the surface water quality standards. (Executive Summary, page 28) However, it has been confirmed that those discharges of toxins and extra nutrients during heavy storms were the ones that have been polluting the environment. Therefore, the projection of no Impact (which was based on the incomplete historical data) has no base and misleading. Furthermore, the FAS water has different physical and chemical properties compared with the SAS water and the potential impact of mixing two different aquifer waters through the beneficiation process and settling ponds was not evaluated either. | |
| 000000280-15 | Lee County, FL, Roland Ottolini, P.E. | County Government | Alternative 1 The statement concerning development causing increases in surface water runoff ignores the current pre equals post rule. If there are increases after development with the current development standards, the standards obviously do not function as designed and are in need of revision. It seems presumptuous to say the Ag uses will remain the same if the mines are not constructed, in that no alternative uses or restorative efforts are considered under this study. In plain words, if the mine is not constructed and the plan(s) of reclamation not followed, things will remain the same. Thus no other actions or improvements are considered. | Not all predicted development will require environmental resource permit review to consider stormwater runoff. The effectiveness of the current runoff requirements in considering potential increases in surface water flows in the future is beyond the scope of the AEIS. The analysis of direct and indirect effects on surface water resources considers those effects on a subwatershed and watershed scale. Although the No Action Alternative - No Mining scenario assumes no mining on the four proposed actions' parcels would take place, other actions on those parcels may be part of the overall land use changes predicted at that subwatershed and watershed level. |
| 000000280-17 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.6.2.2 Surface water P. 23, line 22 It is counterintuitive to have the previous statement regarding the hydrology link between rainfall, surface and ground waters and with the magnitude of the area disturbed due to mining in the CFPD to not have a comment concerning the impact the disturbance had, has and will have on the hydrology of the area. P. 23, line 28 The drainage area of the CFPD will be substantially impacted by the hydraulic modifications associated with the mining disturbances. As such, the receiving waters will be negatively impacted during the period of the mining activity until the area can the reclaimed and returned to its pre-mining condition. The mines water budget becomes impaired | Chapter 4 of the Final AEIS addresses surface water hydrology impacts associated with mining, including effects during the temporal scope, ecological resource effects, and impacts to Charlotte Harbor. Appendix G has additional information on the surface water hydrology analyses. |

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| | | | for the period of time where the SAS and natural wetland and streams are disturbed and augmented by interior recirculation ditches until the system function can be restored to pre-mining condition. The habitat and ecosystem loss during the undetermined time period was not quantified or discussed. Major rivers are impacted during the life of the mines. When the mine area is reclaimed, the flows and useful life of the mine area is restored. However, this takes over several decades. It is difficult for a natural system to remain viable for years of adverse conditions. The Peace River will be impacted by three of the proposed mines and is the major freshwater source for Charlotte Harbor. As such, base flows have potential to be negatively influenced by the proposed hydrology impacts. Base flows are critical in their role during zooplankton development. Proper saline distribution in the river course provides micro environments suitable for specific species, this combined with base flows, helps in dispersal of predator and prey species. | |
| 000000280-18 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.6.3 Water Quality The study implies the water quality impacts influence only the Floridan aquifer. Other water quality impacts are implied to be less consequential. The total consumptive use (all uses, all aquifers, including SAS were not considered in this chapter summary). The quality and quantity of water supplied to receiving waters (surface runoff and base flow) has not been sufficiently addressed. The SAS has connection to wetlands and streams yet assumed insignificant. | Mining impacts to surface water runoff and groundwater baseflow are addressed in the respective sections of Chapter 4 of the Final AEIS and Appendices F and G. Water quality issues are also addressed in Chapter 4 and Appendix D of the AEIS. Available data from the SAS and UFA indicate that there are no widespread water quality impacts. The Final AEIS includes a summary table to show the base well withdrawal rates for each model layer to clarify all the water use categories that are included in the model input. |
| 000000280-26 | Lee County, FL, Roland Ottolini, P.E. | County Government | 3.3.2 Water Resources P. 3-51, line 10-13 Minimum flows for the Peace River are discussed with respect to the use of the river as a source of potable water. However, there is no analysis of the magnitude of impact that the projected reductions in flows from the proposed and potential future projects may have on the ability of the PRMWSA to withdraw water. An assessment of the potential number of days that water could not be withdrawn from the Peace River, and the reduction in withdrawal volume that may result, should be included in the AEIS. | The surface water section of Chapter 4 of the Final AEIS predicts flows by seasons. Appendix G includes an assessment of the potential impacts on days of flow below the MFL threshold to evaluate the potential impacts on water supplies. |

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| 000000280-27 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 3-38, Table 3-3 Cumulative impacts on net discharges downstream and ultimately to the Charlotte Harbor Estuaries from multiple mines were estimated using the USEPA Simple Method. One of the parameters used in the Simple Method is the drainage area that contributes to the gauged location. The Horse Creek sub-basin area in Table 3-3 is reported to be 200.7 square miles. This differs from the sub-basin area of 218 square miles reported by the USGS for Horse Creek at Arcadia. | Table 3-3 quotes drainage areas provided in the Peace River Cumulative Impact Study prepared by PBS&J, 2007. |
| 000000280-29 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 3-83, line 8-13 and Appendix B A portion of the Sarasota Bay Estuary Program watershed, as well as Tampa Bay and Charlotte Harbor Estuary Program watersheds, is within the CFPD boundary. | Text in the Final AEIS was modified in Chapter 3 to acknowledge that the Sarasota Bay Estuary Program is near the CFPD, but none of the alternatives are in its watershed. The CFPD (which is an approximate boundary) includes only a minimal area of the contributing watershed. |
| 000000280-32 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 3-86, Table 3-8 and Appendix B TMDLs are discussed, but there is much less emphasis on the numerous water bodies deemed impaired under the States Impaired Waters Rule (CH 62-303, F.A.C.) that do not have TMDLs adopted yet. Impaired WBIDs have been determined by Florida Department of Environmental Protection (FDEP) to not meet their designated uses because of excessively high concentrations of nutrients, biochemical oxygen demand, fecal coliform, or other pollutant; or low dissolved oxygen (DO) levels. These water bodies, and potential methods for pollutant load reductions from mining areas, should be discussed in detail in the AEIS. Almost 50 impaired WBIDs within the CFPD are covered under the 1999 Consent Decree and are listed in Appendix B. These are the WBIDs that were committed to have TMDLs completed by 2012. Although many were originally designated as low priority, now that the deadline for TMDL development is approaching their priority should be perceived as more urgent. It is likely that many of these WBIDs will have TMDLs set or proposed within the lifetime of the proposed projects (if the projects are approved). Of special concern is Limestone Creek, which runs through the Hardee Mining Overlay - South Segment potential future mine project (Alternative 8). The high priority WBID (#1921) is on the 1998 303(d) list for excess nutrients, total suspended solids, and fecal coliform bacteria; and low DO. Additionally, EPA published a TMDL for Limestone Creek and other Peace River tributaries in 1996. EPA deemed Limestone Creek impaired for high nutrients and low DO, and set a TN load reduction for the | The text in Chapter 3 and Appendix D of the Final AEIS was updated. Detailed TMDL modeling evaluations are part of the State's NPDES program implementation and not in the AEIS scope. In addition, the offsite alternatives analysis has been revised in the Final AEIS and is provided in Chapter 2 and Appendix B. As a result of the updates, the Hardee Mining Overlay is no longer identied as an alternative. |

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| | | | entire creek basin of 42% as necessary to meet the designated use of the water body. There is no discussion in the AEIS regarding how mining of this water body would affect its status as impaired, and how the load reduction would be accomplished both during active mining and after reclamation. P. 3-92, Table 3-9 and Appendix B The states proposed numeric nutrient criteria (NNC) are discussed and presented. The AEIS states ...if these deliberations reach resolution prior to the completion of this AEIS, further consideration of the alternatives under AEIS review will need to address these new regulatory requirements... The NNC were recently upheld by an administrative law judge, so the alternatives should be revisited in light of the current NNC criteria. Additionally, FDEP has developed new dissolved oxygen (DO) standards for fresh and marine waters. The new standards are based on percent saturation of oxygen in lieu of the existing concentration-based standards. The DO criteria for Floridas Class I and III freshwaters recommended for adoption are expressed as: The daily average percent DO saturation shall not be below 67 percent in the Panhandle West bioregion or 34 percent in the Big Bend, Northeast and Peninsula bioregions. The CFPD is in the Peninsula bioregion. Likewise, the proposed DO criteria for Floridas Class II and III marine waters developed from the application of the USEPA Virginian Province approach to Florida-specific fish and invertebrates is expressed as: The daily average percent DO saturation shall not be below 41.7 percent. The 7- and 30-day average percent DO saturations shall not be below 51.0 and 56.5 percent, respectively. As with the proposed NNC criteria, the proposed DO criteria appear likely to be adopted. Therefore, related water quality elements of the AEIS should be revisited with respect to the proposed criteria. | |
| 000000280-41 | Lee County, FL, Roland Ottolini, P.E. | County Government | Figure 4-36, 4-39, 42, 44, 47, and 49 - all capture area curves and Appendix E The curves were developed under assumed timelines for land preparation, mining, and reclamation. The ditch and berm system around a reclaimed area (which includes reclaimed and mitigated wetlands) is removed after the area is released by the agencies. The reclamation time period used to develop the capture curves was assumed to be one year after reclamation completion (Page 4-22 last bullet). However, information presented in Section 5 (Page 5-3 third | AS described in Appendix J and Chapter 4 of the Final AEIS, the assumptions used in surface water evaluations were consistent with state rules. Reclamation periods are specified by Florida rule and the duration and phasing of the proposed mines were provided in the Applicants' applications. The reasonably foreseeable mines were based on similar assumptions, but were independently developed. |

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| | | | paragraph and page 5-5 third and fourth paragraph) suggests that the time required demonstrating wetland mitigation success is longer than one year (at least two years and likely more, according to the AEIS). Consideration should be given to revising the capture area curves based on a more conservative estimate of the time needed for the release of wetland reclamation areas. This would not increase the magnitude of maximum capture area, but would lengthen the curve, thus increasing the total area under the curve and indicating prolonged potential impacts. | |
| 000000280-49 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.12.3.4 Surface Water Hydrology Page 4-232, line 3-18 The AEIS states that Mosaic and CF Industries have included specific features designed to maintain overland flow (i.e., surface water runoff), yet goes on to re-describe the ditch and berm system that retains almost all stormwater. A series of outfalls is proposed to provide hydration to streams, but the methods are not stated. How can there be water available for discharge to streams when most needed, likely during the dry season, when ditch water is most likely to be recycled? | Text was modified in Final AEIS for clarity in Chapter 4. Modifications to restore flow occur during post-mining reclamation. |
| 000000280-51 | Lee County, FL, Roland Ottolini, P.E. | County Government | Section 6 - Compliance with Environmental Requirements 6.5 Clean Air Act of 1972 P. 6-3 Although TMDLs are discussed elsewhere in the AEIS, the Clean Water Act program should be included in this section. | Compliance with the Clean Water Act is addressed in Chapter 6 of the Final AEIS. |
| 000000280-52 | Lee County, FL, Roland Ottolini, P.E. | County Government | Appendix B - Water Quality Evaluations In addition to the comments relating to water quality evaluation referencing Appendix B above, there are several sources of relevant information that were not considered in the AEIS evaluation. The Charlotte Harbor NEP has sponsored numerous technical studies to determine watershed-based water quality concentrations and pollutant loading levels that are protective of the Charlotte Harbor estuary. These criteria are an important management tool to help guide activities in the estuarys watershed. The potential for downstream effects resulting from mining are all the more critical in light of EPAs current emphasis on developing downstream protective values (DPVs) for in-stream flow and loads. The results of the CHNEP work link watershed-based nutrient concentrations and loads from upstream areas to receiving water nutrient and chlorophyll concentrations, as well as DO levels and water clarity. Summary information from the reports should be | Chapter 4 and Appendix D address water quality impacts associated with mining. The runoff estimation methodology came from the Janicki 2010 report. |

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| | | | included in the AEIS with respect to potential effects from mining. Of particular concern are issues such as: How will nutrient concentrations and loadings generated on-site compare to existing levels? How might changes in concentrations and loads affect downstream resources? What measures will be put in place to counteract negative impacts should they occur? The following CHNEP reports provide information regarding desirable limits on surface water pollutant concentrations and loads, and target concentrations for the estuary including the Tidal Peace River and Tidal Myakka River. Development of Numeric Nutrient Criteria for the Estuarine Waters of the Charlotte Harbor National Estuary Program (Janicki Environmental, Inc. 2011 Numeric Nutrient Criteria Task 10 - Dissolved Oxygen (Janicki Environmental, Inc., 2011) Charlotte Harbor Numeric Nutrient Criteria: Task 9 Downstream Protection Values (Janicki Environmental, Inc. 2011) Proposed Numeric Nutrient Criteria for the Charlotte Harbor National Estuary Program Estuarine System (Janicki Environmental, Inc., 2011) Charlotte Harbor Estuary Status and Trends: Water Quality Data Analysis and Report for the Charlotte Harbor National Estuary Program (Janicki Environmental, Inc., 2010) | |
| 000000280-56 | Lee County, FL, Roland Ottolini, P.E. | County Government | Appendix E - Surface Water Analysis 2.0 Analytical Approach and Validation P.4-- P.23 It seems that the author of this Appendix E views the long-term cumulative effects analysis as equal to over-simplification not considering major hydrologic stresses and processes. Nothing can be farther from the truth than this view. The long-term analysis is to better understand what the short-term or event-based analysis cannot provide. In Central and South Florida, it is ubiquitous phenomena that the so-called event-based and short-term analyses generally produces results which are insensitive to the anteceding soil moisture conditions (which varies temporally and spatially). Depending on anteceding soil moisture contents and saturation of local depressions, the same event-based storm can produce significantly different flows in the system. Long-term analysis can cover the shortcomings of event-based analysis, but it requires no-less degree of input data. It does NOT warrant nor justify the over-simplifications as used in the AEIS (i.e., annual average rainfalls and flows). Use of annual average values in the Environmental Impact Analysis produces | Appendices G and J explain how the EPA Simple Method was applied to the surface water analyses, including validation. The analyses were conducted on a seasonal basis. An additional analysis is included in Appendix G which looks at daily data. |

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| | | | no meaningful results and the results are gravely misleading. Therefore, the current analysis should not be accepted in scientific decision making process. Also, the rational method (Q = Cd * A * P) is meant to be applied for a storm event with relatively a short duration say in the order of hours. Florida State DOT published Zones of Precipitation Intensity-Duration-Frequency (IDF) Curve (FDOT, Drainage Manual, 2000). According to the drainage manual, CFPD area straddles over three zones (6, 7, and 8). The IDF Curves show that the rainfall intensity in CFPD ranges from 1 to 4 inches per hour depending on storm duration (in the range of 1 to 5 hours) for the return periods of 2 through 100 years. However, the rainfall intensity used in AEIS is infinitesimally small when the maximum total annual precipitation is converted into hourly intensity. (65 in/yr = 0.0074 in/hr < 0.01 in/yr). This raises several serious issues with the application of rational method in CFPD area: 1) the annual total rainfall values may not be applicable; 2) the size of CFPD area is too big to apply the rational method; 3) to compensate this over-simplified method, the rather arbitrary term called long-term (runoff) adjustment factors may have become necessary. But this new term has no empirical verification or validation. Therefore, the entire analysis presented in Appendix E needs to be rewritten using an appropriate runoff estimation method. The new method should use the seasonally varying actual rainfalls and flows and include the other detailed hydrologic features such as streams, ditches, dikes/berms, lakes/wetlands/depression areas, evaporation/evapotranspiration, recharge/discharge, topographic variations, etc. | |
| 000000280-57 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.0 Capture Area Projections within Proposed Mines P.26-P.33 Individual and total capture areas for each of the watersheds impacted by a given mine were plotted. Predicted future flows with and without individual mines were plotted for the different watersheds for average and low rainfall estimates. However, these plots at the scales used tend to visually minimize the impacts to flow caused by mining and make comparisons difficult. | The surface water hydrology section of Chapter 4 presents the results of the analysis with tables instead of graphs. Appendix G shows the results with both tables and graphs. |
| 000000281-6 | Sandra Ripberger | Private Citizen | ES 6.2.2, p. 26 In another example, runoff volume is minimized, projected reductions for each mine drawn from review of the mine plans. | Comment acknowledged. |

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| 000000281-10 | Sandra Ripberger | Private Citizen | ES 7.3 Horse Creek is predicted to have a decreased water flow of 16%. This seems large but the AEIS minimizes these impacts and cumulative decreased flow to the Charlotte Harbor National Estuary is not analyzed. | Flow to the Harbor was analyzed and included in Chapter 4. A discussion of Horse Creek is also included under the cumulative impacts section of Chapter 4. |
| 000000281-25 | Sandra Ripberger | Private Citizen | No hard data is given for the Horse Creek Stewardship Program and the AEIS reports that variations did not appear to be related to phosphate mining discharges. And fish community species richness and diversity is not viewed as related to mining activity. Phosphate company employees praise the Horse Creek Stewardship Program as a monitoring program that would serve as an alert for any changes in water quality that occur because of phosphate mining. At a conference sponsored by Gulf Coast University, Bill Dunson, Ph.D. presented a critique of this monitoring program, Designing a Water Quality Monitoring Program A Critique of Horse Creek. Dr. Dunson was a biology professor at Penn State until 1997, has a B.S. from Yale and a Ph.D. from the University of Michigan. He now lives in Englewood and is a recognized expert on the ecological impacts of fresh water withdrawals from the Peace River on Charlotte Harbor. In his research, Dr. Dunson studied levels of pollutants in six Florida rivers, using St. Marys as a control (it is relatively pure) and including Horse Creek which has lower pollution levels than Payne Creek, a tributary of the Peace near Arcadia and the Alafia. Dr. Dunson found that the IMC/Mosaic monitoring program set the trigger levels for pollutants in Horse Creek so high that Mosaic wont have to worry about setting off any alarms. For example, the level set for specific conductants in the Creek is 1275 ms/cm when the most heavily polluted of the five rivers Dunson analyzed had a level of only 400. Similarly elevated triggers are set for floride, the best indicator of mining, and many other pollutants. Dr. Dunsons presentation is available online and I urge that the AEIS consider more of his analysis at http://itech.fgcu.edu/faculty/ndemers/Miningconference/mcindex.htm. Dunson maintains that the Horse Creek Stewardship Program will be used as a model for all future mines and demonstrates clearly that the trigger levels of the pollutants need to be reset with unbiased scientific data. | Studies by the HCSP are referenced and discussed in Chapter 3. Water quality evaluations in the Final AEIS reference current regulatory water quality standards, which the mine discharges are required to meet. |
| 000000281-27 | Sandra Ripberger | Private Citizen | Table 4-27 4-117 Where there is documentation of impairment, as in Wingate Creek, the study says There may be | A specific conductance of 600 complies with the water quality |

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| | | | short-term invertebrate community response to high rate of mine discharge. Re-colonization may effect rapid recovery. There is no definitive indication of phosphate mine related indirect water quality impacts on aquatic communities. The numbers here of 600 conductance identify impaired waters but this is dismissed. | criterion. |
| 000000348-3 | Barbara Angelucci | Private Citizen | There was insufficient and highly incomplete information. New information must be generated, e.g., a new study on stream flows comparing stream flow generating capabilities of different areas of the unmined basin to those of reclaimed basin, i.e., compare the amount of stream flow from an unmined basin and a reclaimed basin. New data is necessary with the increased mining activities. | Chapter 3 of the Final AEIS, reviews available information on stream flows, such as the Lewelling and Wylie report (1993), which compared the amount of stream flow from unmined and reclaimed subwatersheds. The complete reference for the Report is provided in Chapter 7. |
| 000000348-4 | Barbara Angelucci | Private Citizen | Charlotte Harbor Water Atlas: www.chnep.wateratlas.usf.edushows evidence of impairment in the upper Myakka River. Both the Wingate East Extension and Wingate East mine discharges will flow through creeks into the Myakka. | The FDEP Impaired Water list includes segments of the Myakka River with fecal coliform and mercury (in fish tissues). These issues are discussed in Chapter 3 and Appendix D of the Final AEIS. |
| 000000348-5 | Barbara Angelucci | Private Citizen | LIDAR must be used as a tool for monitoring water flows and not what was recommended by Mosaic or ACOE. | The availability of LiDAR data is discussed in Chapter 3. LiDAR measures topography (elevations), not flow. It is being used extensively by scientists who review watersheds and flow patterns. |
| 000000355-6 | Sarah Hollenhorst | Private Citizen | I believe the Rivers and Harbors Act of 1899 is violated by the draft as the construction of the mines will cause the deposit of material in the Peace River. I believe Horse creek needs to be reevaluated as to its value within the estuary watershed and further alterations or changes to the wetlands and uplands that supply the freshwater to it should be halted. | The surface water, water quality and ecological resources sections of Chapter 4 addresses potential impacts onsite and downstream of the Applicants' Preferred and Offsite alternatives. Section 6.18 of Chapter 6 addresses environmental compliance with the Rivers and Harbors Act of 1899. |
| 000000365-3 | Carol Mahler | Private Citizen | The Wild and Scenic River designation for the Myakka River as it flows through Myakka River State Park is only mentioned on p. 3-83. The Cumulative Effects on Myakka River Discharges from Proposed Mine and Reasonably Foreseeable Mine notes only the small percentage of decrease and the small percentage of water that the Myakka River contributes to the Charlotte Harbor Estuary (p. 4-235). The AEIS states Water quality in the Myakka River is generally considered good, although a variety of human activities have impacted the river (lines 24-25, p. 4-198). Because the water has already been degraded by human activities, no further degradation should | Direct, indirect, and cumulative impacts on surface water hydrology, including to the Myakka River, are addressed in Chapter 4 of the Final AEIS. |

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| | | | be permitted--even the slight 13 cfs projected (line 12, p. 4-235) as well as other effects detailed throughout the chapter and in Appendix E. This seems to be counter to the SWFWMDs Myakka River Watershed Initiative. | |
| 000000367-1 | Mary-Bruce Sondergaard | Private Citizen | I am absolutely opposed to add more phosphate mining to Florida. We are a pleasure state and need clean water an harbors this does not seem to add to the beauty of the state or the health of the water. | Comment acknowledged. |
| 000000369-14 | Manatee County, FL, Ed Hunzeker | County Government | 3. Section 3.3.3, Page 3- 81 through 3-90: The AEIS should include an independent, statistically significant analysis of surface water quality at all waterways connected to active mines within the CFPD. The AEIS evaluation relies on past investigations in the "four corners" area (Lewelling and Wylie, 1993), Horse Creek (BRA, 2006), and the Peace River (PBS&J, 2006). The Peace River study was inconclusive in its evaluation of phosphate mining effects on surface water quality and the Lewelling and BRA evaluations only take into account a single system. NPDES data, while valuable, only provides information on individual mine discharges on a variable basis in times of high water. An evaluation that includes seasonality is needed to assess surface water quality of various waterways within the CFPD. Data is available from other sources, for example DRI 5/251 and Manatee County Ordinance 08-16 require eight (8) surface water quality monitoring stations within Manatee County, five (5) that are sampled quarterly and three (3) that are sampled monthly. Data from other local, state, and federal programs are also available. | Chapter 3 and Appendix D of the Final AEIS provide background on the available reports and data sources used in preparation of the Draft and Final AEISs. FDEP regularly assesses waterbodies as part of their mission and their reports (including the 303(d)) were reviewed as was NPDES data. |
| 000000369-22 | Manatee County, FL, Ed Hunzeker | County Government | 1. Section 4.2.3, Surface Water Resource: The analytical approach used to forecast surface water hydrologic impacts has significant flaws and is inadequate for the stated purpose of the AEIS. The resulting model has no predictive utility over the very long time span over which it's applied. | The surface water approach used in the AEIS is described in Appendix G, and as noted there, has been used by agencies in the past in this area, to support watershed level pollutant load calculations and associated nutrient criteria development for the receiving estuaries. |
| 000000370-3 | Maynard Hiss | Private Citizen | 2) Because of the high demands for water and extensive dependence on groundwater the groundwater table has been lowered to the point where water now goes directly into the aquifer in places where it normally flowed out. 3) As surface water dries out concentrations of pollutions increase in concentration. In the past some of the concentrations were diluted by groundwater flows. But the groundwater flows in the form of springs have lower flows or dry up. | Groundwater quality is discussed in the water quality section of Chapter 4. |

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| | | | The groundwater no longer dillutes the pollution in surface water it increases the concentrations of pollutions and nutrients. And the air is now filled with sediments and pollutants that also enter the surface water sources (e.g. dust and rainwater with altered chemicals from the particulates).4) As springs dry up, surface water is beginning to enter the groundwater. The surface water is especially polluted in droughts as concentrations of pollutants are less diluted, and more polluted from wind born materials that increase in dry times. Also during dry times irrigated water increases. Water from irrigation during drought is often more highly polluted than normal surface water flows since it is on fertilized and pesticided lands, more dust in the air, and is associated with livestock or pets and wild animals (which often are concentrated in small pools of water). The irrigated water is not dilluted by other surface water types, instead it is concentrated with pollutants and nutrients. 5) Normal highly filtered water going into the aquifer in the recharge areas in phosphate areas is no longer able to enter the aquifer because of the slime ponds are designed to prevent the flow of water into the aquifer. In some cases the slime ponds cover a high percent of the total potential recharge area. Because the decrease in recharge filtered water there is a higher percent of untreated surface water flows in the aquifer.6) In Sarasota County the area underneath the landfill was not getting oxygen. There were chemical reactions in the soil because of the lack of oxygen that creating a pollutant. The pollution plume from the chemical reaction under the landfill was moving toward the water supply as it was in the cone of influence of the groundwater supply wells. In areas where there is extensive slime ponds there in the potential for leaks into the aquifer but also chemical reactions that can create water pollutants that can pollute the water supply. There was not analysis of the potential threat to the groundwater from these chemical reactions underneath the slime ponds which will cover extensive areas of the mining area. | |

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| 000000371-7 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | What are the economic impacts to pubic water supplies when they are required to increase storage and or develop additional alternative water supplies to ensure system reliability to make up for these projected changes? | The effect of low flow days to the PRMRWSA are discussed in the surface water section Chapter 4. |
| 000000371-26 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Average water quality data from mine discharges are informative, but they don't tell much about potential worse case impacts, which are caused by specific events and not averages. The AEIS needs to show what the maximum observed values were, the number of observations available, and the number above water quality standards. | Appendix D of the Final AEIS includes additional requested summary statistics. |
| 000000371-33 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "The largest influence on annual average flow from the Horse Creek sub-watershed during average rainfall conditions was predicted to occur in 2030, when Horse Creek may have an average annual flow of approximately at 200 cfs without the proposed mines and approximately 173 cfs with the proposed mines. This corresponds to a decrease inflow of approximately 27 cfs, or 16 percent. Cumulative effects on predicted annual average flow from the Peace River at Arcadia subwatershed remained minimal, and this was attributable to the very large cumulative watershed area contributing flow to this USGS gauge." o Again, there is an issue with how the AEIS projects future rainfall over the period out to 2060. Rainfall in the central phosphate region has not historically had and even distribution over time, and should not be expected to do so (as used in the AEIS). It could easily be argued that the best potential predictor of rainfall into the future (at least the most conservative) would be to use the historical record of actual rainfall distribution that has occurred over the last 10-15 years. Impacts to potential public water supply and the harbor will not occur under higher flow conditions, but will be greatest during lower flows (when mining will be retaining as much water from impounded areas as possible). The potential impacts of mining should thus be based on low flow scenarios rather than annual average conditions which mask the real potential impacts. The holding of water during the dry-season and beginning of the wet-season by mines until excess is accumulated in their circulation system, delays down stream flows and extends the dry-season low flow period downstream. This condition reduces water supply reliability and requires the additional investment in storage | Chapter 4 and Appendix G of the Final AEIS evaluate impacts to river flows under annual and seasonal conditions. Additional information about the long-term rainfall in the region was added to Appendix G. |

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| | | | infrastructure and or the development of additional water resources by public supplies to compensate for mining impacts. The AEIS needs to discuss this large dry-season impact in greater detail and add this discussion to the economic impact section as well. | |
| 000000371-34 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Figure ES8. This graphic isn't exactly correct. Mining will impact the estuarine portions of both rivers separately, by changing the spatial locations of the isohalines, which during lower flows are located well up into each of the lower rivers and not in the harbor. This graphic uses the much higher flows in the Peace to mask those flows in the Myakka. It seems a bit unrealistic to be using the constant rainfall (over time as done in the AEIS) while also predicting increasing flows over time due to landuse changes that may or may not happen. It would have been more realistic to also predict changes using seasonal low, normal and high annual hydrograph/rainfall patterns, and existing, more realistic, and then the possible potential future landuses. | Flows were estimated for both the Myakka and Peace Rivers separately, as well as in combination and are provided in Chapter 4 and Appendix G of the Final AEIS. |
| 000000371-35 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Again, an issue with the AEIS is that it predicts that stream flows will increase due to landuse conversions from agriculture to urban, but it ignores the fact that base flows are currently augmented by agricultural discharges. These should have been subtracted before impacts are assessed. Urban land use in this area may very well require ground water as a source of supply. Currently most reclaimed mined land initially reverts to a mixture of natural and agriculture landuse. The AEIS needs to evaluate this possibility and the resulting impacts. Also the AEIS ignores implementation of newer storm water BMPs for new urban areas which would further reduce any predicted increases in flows as used in the models. | Appendix G discusses effects of mining when flow rates are low in greater detail.MFL studies conducted and proposed by the SWFWMD are summarized in the Final AEIS as are plans to reduce irrigation return flows as part of its SWUCA strategy. |
| 000000371-50 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | USGS has found "differences in values or concentrations for the ... properties or constituents between unmined and mined/reclaimed basins generally are small... Results of water quality analyses of samples from reclaimed basins generally indicated that shallow groundwater in these basins had higher concentrations of most constituents than shallow groundwater in unmined basins." If shallow groundwater in these areas has higher dissolved constituents, then shouldn't this be subsequently manifested in surface flows from these lands influencing both surface water quality and in-stream | As noted, the differences between the two are small and not likely of sufficient concentration to affect in-stream fauna. The USACE has no regulatory authority over mining in uplands but any mining in uplands would still have to comply with local state and other federal regulations which would include stormwater management regulated by the FDEP. Mining related impacts are discussed in the surface and ecological resource sections of Chapter 4. |

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| | | | fauna. This issue alone leads one to wonder why the "no action" alternative allowing mining in uplands only would be acceptable and require no assessment by the ACOE. | |
| 000000371-54 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Aren't the cumulative magnitude of the project changes in flows (which would be much greater during seasonal extreme low flows) conflict with the Myakka River designation of OM under "Wild and Scenic". | Not all of the Myakka River is an OFW because of its wild and scenic river designation. Section 3.3.3 of Chapter 3 identifies the designations by stream segment and the surface water section of Chapter 4 provides flow impact assessments. |
| 000000371-57 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Horse Creek, Myakkahatchee Creek, and Peace River might receive some level of consideration above standard Class III standards, where changes in water quality are concerned since they are public supply sources and changes in water quality could reduce their ability to seasonally withdraw water reducing system reliability. Such issues as additional water storage, alternative water resources and additional treatment to treat water quality changes are not included under the economic analyses. | The low flow characteristics of the Peace River are evaluated in the AEIS for the PRMRWSA intake in Chapter 4. Not all streams and rivers that are used as water supply sources are classified Class I waters, they may have Class III or different compliance standards; but consideration is given to water supply intakes during FDEP permitting. |
| 000000371-64 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | A water quality impact not discussed in the AEIS is when mined land is reclaimed then converted to agriculture use. The swales used during mining to convey water / clay slurry remain on the reclaimed land and becomes part of the land's internal storm water system. A high rainfall event (example 6 inches in 8 hours) has the potential to scour legacy material from the bottom of these swales, blow out converts and deposit this material downstream to the river. | The ditches used for mining operations must be removed during reclamation. The NPDES discharge data presented in the Final AEIS (Chapter 4) includes the effect of these types of water quality parameters during mining. Reclamation and mitigation parcels released to discharge stormwater must meet receiving water quality standards. |
| 000000371-70 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Habitat impacts of all the alternatives were analyzed. However, the hydrologic impacts on stream flow were only analyzed for the first two series of alternatives: 1) proposed, 2) expected. | The potential hydrologic effects reviewed in the Final AEIS included those associated with the No Action, Applicants' Preferred and Offsite Alternatives, both as individual mines and cumulatively over time. |
| 000000371-73 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Generally agree that water quality associated with mining directly isn't usually much of an issue - the problems are associated with discharges from secondary impacts under low flow conditions. | Comment acknowledged. |

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| 000000371-89 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "The AEIS needs to apply estimated land use and weather patterns for up to approximately 50 years into the future." Maybe, but depending on the underlying assumptions used, these can have lots of issues. The model effort used rainfall from 1985 through 2011 which makes sense, avoids wetter period in the 30s through the 50s. | Comment acknowledged. |
| 000000371-92 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The method used in the AEIS completely ignores the potential for extended periods of drought, which result in seasonal periods of flows which impact available water under low flow conditions causing system reliability concerns for downstream public water supplies The method provides some estimate of overall annual changes in flows, but these would be far smaller than those expected to be seen during drier time intervals. Stated another way the AEIS evaluation has concluded a more positive impact by evaluating this condition on an annual basis. The AEIS needs to consider the worst conditions that will occur when annual rainfall is less than 40 inches (year 2000). Under this scenario stream flows were low for 8-9 months while water suppliers were required to meet daily public demands. New proposed mines will increase the period of low flow while filling their recirculation systems. To account for this the AEIS simply uses 50 inches/year over time to estimate normal rainfall, and the 43 inches/year over the "entire" time period to look at low flow years. The AEIS isn't specific how these numbers were derived. Figures 3 and 4 in Appendix E definitely shows that the coastal Myakka watershed, on average, has more rainfall than the Peace River watershed These flow estimates also assume that runoff coefficients in the watershed will go up with time due to urbanization. Urbanization may not occur. Increasing coefficients used may or may not also be true in practice, since under both District and TMDL best management practices (BMPs) existing/historic runoff is expected to be reduced from current levels. The AEIS probably is overestimating changes in flows based on landuse if new development follows currently required BMPs for new land development. What isn't accounted for is that currently agriculture is "augmenting" dry season base flow in both the Peace and Myakka watersheds. If agriculture acreage is replaced by urban, then the current augmentation will no longer occur. The higher runoff coefficients used in the AEIS | Additional rainfall data are included in Appendix G of the Final AEIS. The Final AEIS was expanded to report seasonal results in Chapter 4 and Appendix G, and more discussion is included about the low flow data, especially in Appendix G. |

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| | | | (assuming landuse changes) will at best simply replace the loss of current dry-season augmented flow (on an annual average basis), but not in the dry-season. DeSoto Mine analyses predict maximum percent change in Myakka annual flow, and "negligible" change in Peace River at Arcadia flow, under 50 inches average. Under low rainfall conditions the estimated maximum change was again 6 percent. Ona Mine analyses predicts, under 50 inches annual average rainfall, to result in 8.5 percent maximum decline in the annual average flow of Horse Creek analyses indicates "minimal" change in Peace at Arcadia. The AEIS then uses 43 inches annual average and generates a 6.0 percent change (again uses that value over the entire time period). Analyses for the Wingate East mine were made for the upper Myakka River gage near Sarasota. "Difference between the annual flow with and without the Wingate East Mine in the Upper Myakka River subwatershed during low rainfall conditions was estimated to be negligible." | |
| 000000371-93 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | South Pasture Extension Mine. The AEIS methodology predicts annual average changes to the Peace River at Arcadia to be "nominal", and 4 percent in Horse Creek flow. "Effects of this mine extension on Peace River at Arcadia subwatershed flows during low rainfall conditions are estimated to be negligible." | Additional analyses were performed and are included in the surface water section and Appendix G of the Final AEIS. |
| 000000385-6 | Jono Miller | Private Citizen | Furthermore, lumping the Peace and Myakka together does each a disservice and using annual averages masks critical aspects of timing. | Each watershed was analyzed both individually and collectively (for freshwater flow to the estuarine waters). The timing of mining in each subwatershed was included as part of the analysis. |
| 000000385-9 | Jono Miller | Private Citizen | Page 3-42 Figure 3-17 purports to show gauges in the CFPD region, but omits any gauges in the Myakka Basin. This figure is contradicted by Figures 4-33, 4-35, and 4-43. | The referenced figure shows USGS gages with flow measurements. There are not many flow measurement gages in the Myakka River watershed since some of the gages measure levels only. |
| 000000385-10 | Jono Miller | Private Citizen | Pag3 3-46 Lines 5-21 This discussion of Big Slough (aka Myakkahatchee Creek) that focuses on flooding neglects to mention that the City of North Ports principle source of raw water supply is surface water from the Myakkahatchee Creek. This crucial fact is mentioned without comment on Page 3-86, Lines 18 and 19 and again on Page 3-144 Line 26. This fact needs more attention and analysis as questions of water quantity, quality and quantity take on added meaning when municipal supply is at stake. Pursuant to statements on Page | The North Port intake is discussed in the MFL portion of Chapter 3. Pine Level/Keys Tract is the only offsite alternative or reasonably foreseeable action in the Big Slough subwatershed considered in the Final AEIS. The potential direct, indirect, and cumulative effects of mining this parcel are discussed in Chapter 4. |

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| | | | 3-144 (lines 30-32) Protection of public drinking water supplies is a critically important factor to be considered during AEIS evaluations of potential effects of proposed or future phosphate mining it is not without irony that Manatee County (which has county-wide jurisdiction) can adopt an ordinance designed to protected surface watersheds that contribute to potable drinking water sources and have alternative polygons removed from consideration as a result, while the City of North Port, which also relies on a watershed (page 3-147, Lines 1-12) but has no jurisdiction north of the City Boundary, cannot eliminate polygons V, L, and K from consideration. | |
| 000000387-1 | Mary Olsson | Private Citizen | As a resident of South West Florida, my concern addresses the protection of water quality supplies feeding Charlotte Harbor, my communitys water source. I appreciate the public participation in your critical decision making process and trust your adherence to state and federal regulations will safeguard against potentially harmful mining operations threatening Florida citizens water supply. | Comment acknowledged. |
| 000000387-3 | Mary Olsson | Private Citizen | I would like to know what the higher standards are in this report to assure water flow and quality. | The Final AEIS considers the potential impacts of phosphate mining against current local, state, and federal regulatory standards, including for water quality and quantity. Applicable standards are discussed in Chapters 3 and 4. Establishment of more stringent standards is beyond the scope of the AEIS. |
| 000000387-8 | Mary Olsson | Private Citizen | Why is a 4-season water quality & flow reporting for each new Mine, its Mine Area & the Cumulative impacts from several mines all operating at the same times and impacting the same rivers & creeks (horse Creek & Peace River) not required in this proposal? | Monitoring of water quality in the mines NPDES discharge is required monthly, but only when discharge occurs. The cumulative impacts section of Chapter 4 of the Final AEIS considered multiple mines operating at the same time. |
| 000000393-23 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of alternatives analysis related to Lower Peace River and Charlotte Harbor salinities. Page 3-45 states: the AEIS evaluations will ... need to address the potential influence of phosphate mines on river flows in relation to whether any such influences would be of sufficient magnitude to result in ecologically meaningful changes in salinity regimes. No analyses related to effects on salinity in the Lower Peace or Charlotte Harbor are offered. On page 4-238, one paragraph is offered stating The net effects of the four proposed new mine projects are not predicted to cause significant cumulative effects on downstream flow regimes | Mines were evaluated individually and cumulatively in Chapter 4. The Final AEIS evaluated mining effects under low rainfall years. Additional discussion and references on climate change are included in Appendix G of the Final AEIS. The focus of the impacts is on the delivery of water to downstream estuaries. |

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| | | | and are not likely to impact Peace and Myakka River discharge volumes sufficiently to impact salinity regimes in the tidal portions of these rivers leading to Charlotte Harbor Estuary. However, the mines are assessed separately and not cumulatively. Peace River volume changes are shown at the Arcadia gauge, upstream of most of the Proposed and Foreseeable mine alternatives. CHNEP requests assessment include changes in salinity, especially the isohalines associated with the oligohaline (0.5 to 5 parts per thousand) and in the context of predicted sea level rise. | |
| 000000393-24 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of water quality analysis. CHNEP CCMP includes objective WQ-1: Maintain or improve water quality from year 2000 levels... The objective is supplemented by actions related to ground and surface water quality and pollutant loading models and implementing projects to restore and protect water quality. | The Final AEIS discussion in Chapter 3 notes that the National Estuary Program was intended to prevent water quality degradation. The water quality sections of Chapters 3 and 4 address existing water quality conditions and likely impacts as they relate to the identified objective. |
| 000000393-25 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | Chapter 3 (page 3-85) offer links to impairments lists rather than providing them as tables. The first link goes to an EPA search engine. The second link goes to a list of adopted Total Maximum Daily Loads (TMDLs) in Florida. Neither link provides information related to verified impairments in the Peace and Myakka River basins. Impairments within and downstream of the mine alternatives include: Chlorophyll a, dissolved oxygen, fecal coliform, total coliform, iron and mercury. CHNEP requests the document acknowledge existing impairments and potential (numeric nutrient) impairments in the study area and downstream. | Appendix D includes a list of all impaired water bodies within the CFPD from FDEP's 1998 list, and Appendices C and D includes maps of 1998 listed water bodies in Charlotte, DeSoto, Hardee, Hillsborough, Lee, Manatee, Polk, and Sarasota counties. The Final AEIS references the Appendices. |
| 000000393-26 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | Table 4-19 on page 4-109 does not include the Class III Chlorophyll a criteria. In addition, the table includes only mean values. CHNEP requests that Table 4-19 include chlorophyll a standards and proposed numeric nutrient standards (as identified on page 3-92). CHNEP further requests that minimums, maximums and standard deviation be included in Table 4-19. It may be helpful to separate the table into two tables to separate ambient criteria from NPDES discharge criteria. CHNEP also requests that pollutant and hydrologic loads and estimated changes in concentrations be included for all alternative groups. | Current Class III criteria do not include a criterion for chlorophyll a in flowing waters. Appendix D was updated for the Final AEIS; it provides more statistics and expands discussion of numerical nutrient criteria. These statistics and the NNC discussion can be found in Chapter 4 and Appendix D. |

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| 000000396-3 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 3, Page 3-65, Line 30 Statistical and trend analyses were not used to characterize streamfiow losses to karst features from 2002-2007. The USGS conducted seepage runs along the karst section of the river and physically measured flow losses during selected dry season periods. Please clarify this in the report. | The Final AEIS text was modified in response to this comment. |
| 000000396-4 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 3, Page 3-88, Lines 2 through 9 The Peace River Cumulative Impact Study contained an analysis of phosphate and fluoride concentrations in the Peace River and associated tributaries based on long-term USGS data which indicated declining trends since the 1970s at all stations on the Peace River. It may be helpful if the report references this information as it documents additional historical water quality trends in the area. | The Final AEIS was modified in response to this comment. Reference was made to a more current monitoring analysis in the Peace River during 2006 for the PRMRWSA (PBS&J, 2010). |
| 000000396-9 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 4, Page 4-23, Lines 8 through 15 The assumption that no water is discharged from NPDES permits as stormwater during active mining may yield unrealistically higher streamflow impacts than what occurs under actual mining conditions. The District suggests that considering historical discharges under similarly-sized mining activities may be a more accurate reflection of streamflow impacts. | The Final AEIS analysis and discussion was revised to clarify and to add the additional 50 percent capture analysis (Chapter 4 and Appendix G). A range of potential results are now included. The 100 percent capture assumption was retained to maintain a maximum potential effect during the dry season. |
| 000000397-16 | US Enviromental Protection Agency, William L Cox | Federal Agency | 7. DAEIS Analysis of River Flows and Runoff The DAEIS appropriately looked at impacts on critical portions of the seven major rivers that drain lands within the CFPD: Withlacoochee River, Hillsborough River, Alafia River, Little Manatee River, Manatee River, Myakka River, and the Peace River. The DAEIS notes that of the four currently proposed new mines, three are primarily located within the Peace River watershed and one is located in the uppermost portion of the Myakka River watershed, and many of the other alternatives are also in these two watersheds. The DAEIS identified future rainfall as the critical "driver" most impacting the water balance of any study area in Florida, as "it directly affects both the surface and groundwater resources of the AEIS study area." EPA notes that Applicants generally propose to develop mine footprints inside a ditch and berm system containing the mine's recirculation system. Thus, the mining area is to be designed to be "taken out of a given watershed's surface water contributions to the watershed's water budget except as allowed through discharges from the permitted National | Comment acknowledged. Note that the Final AEIS modified the analysis and discussion about the hydrologic impact of individual and combinations of mines based on additional information and requests made during the public comment period. |

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| | | | Pollutant Discharge Elimination System (NPDES) outfalls." As portions of the mine are reclaimed and ultimately released from within the recirculation system, the total mine capture area is proposed "to be returned to the pre-mining condition, and its impact on the watershed's water budget reduced over this time period." EPA recommends that the applicants coordinate permitting of these outfalls with EPA Region 4's Water Protection Division, Municipal and Industrial NPDES Section. The DAEIS appropriately featured a detailed hydrologic analysis of potential decreases in surface water flows to downstream reaches of Horse Creek, the subwatershed in the Peace River that would be the most affected by development of the currently proposed Desoto, Ona, and South Pasture Extension Mines, and also the Pioneer foreseeable future mine project. Rainfall "capture" areas were estimated by evaluating the mine plans in terms of acreages scheduled to be mined over the life of each mine, and changes in land use and soil types were projected and used to calculate land use-based runoff coefficients which supported calculation of runoff quantities under annual average rainfall conditions at 10-year increments through 2060. The DAEIS quantified the differences between subwatershed runoff projections with and without the individual mines in place over the duration of the planning horizon. The DAEIS also notes that "because each mine's area is large, when viewed from a local standpoint, the expectation might be that the difference in runoff might be large, but when viewed from a watershed perspective, these areas are modest. The calculated differences in runoff delivered through the Horse Creek watershed were small." The evaluations of the potential effects of two of the foreseeable future mine projects (the Pine Level/Keys and the Pioneer prospective mine projects) were also conducted using conceptual mine plans for these two alternatives that were generated based upon information and assumptions drawn from review of the mine plans for the Desoto, Ona, Wingate East, and South Pasture Extension permit applications. EPA Recommendation: The FAEIS should include any additional hydrologic analyses that document potential decreases in surface water flows to downstream reaches of waterbodies that could be affected by development of the currently proposed mines or the | |

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| | | | foreseeable future mines. | |
| 000000397-18 | US Enviromental Protection Agency, William L Cox | Federal Agency | 9. DAEIS Analysis of Discharge Monitoring History/Surface Water Quality As part of the preparation of the DAEIS, a detailed review was appropriately conducted of historical mining discharge monitoring records in this area. These records indicated that surface water discharge from mines occurs but "not typically on a continuous basis." Surface water discharges from mines are intermittent, as mining companies maximize retention of rainfall for recirculation system use. Discharges generally occur when the system's capacity is exceeded, typically due to heavy rainfall and runoff. Mine discharge monitoring results "confirmed that selected parameters are elevated in mine discharges compared to ambient background levels" -- including elevated phosphorus, dissolved solids, conductivity, and sulfate. Additionally, a number of water body segments within the AEIS study area are included on the State's impaired waters list. However, when the selected outfalls, were averaged over the long term (five years), the discharges generally did not exceed relevant criteria levels, as summarized in DAEIS Table ES-12. Biological monitoring downstream of active mine sites hasn't shown, "...a clear cause and effect relationships between mine discharges and biological responses..." EPA will continue our on-going assessment of the downstream effects of all mining activities even after the FAEIS is published. Evaluation of each downstream water body's compliance with the EPA-approved water quality standards is outlined in Florida's assessment methodology at Chapter 62-303, FAC. As required by the Clean Water Act (CWA), FDEP must report to EPA every two years regarding surface water body "use attainment" in its CWA 305(b) report and CWA 303(d) list of impaired waters. FDEP will identify to EPA any waterbodies which have a "water quality impairment" for the designated use. For each of the impaired waters, EPA will require that a Total Maximum Daily Load (TMDL) be developed for each particular pollutant that is not meeting the designated water quality standard. TMDL daily loads will be set as the pollutant limits for the water body, and will necessitate the creation of a "Basin Management Action Plans" (BMAPs) to lower any excessive pollutant loads and return the water body to a state of compliance with its designated use. EPA Recommendation: | Comment acknowledged. In Chapters 3 and 4, and Appendix D, of the Final AEIS, language on proposed NNC has been updated in cooperation with USEPA. |

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| | | | EPA has promulgated, with future effective dates, numeric nutrient criteria for Florida's inland surface waters, and will propose numeric nutrient criteria for coastal waters in November of 2012. Site specific values in the surface water quality database indicate that these ranges may be exceeded at some sites. FDEP has also now adopted numeric nutrient criteria, including for marine waters such as Tampa Bay and Charlotte Harbor, and if approved by EPA, these will become the effective standards for CWA purposes for the waters to which they apply. The Final AEIS should be updated to reflect any future approvals of nutrient criteria. | |
| 000000430-3 | USGS, Arturo E Torres | Federal Agency | State and Federal agencies could cost-effectively and directly improve the understanding of mining impacts to Florida waters by documenting long-term streamflow in tributary basins and headwaters regions that have been and eventually will become affected by mining activities. Long-term USGS streamflow data was relied on repeatedly in this DAEIS and in the related reports cited in the DAEIS. It is used extensively by the mining industry and regulatory agencies to predict and regulate the impacts of phosphate mining in the Central Florida Phosphate District (CFPD) on streams, wetlands, and groundwater. All of the steamflow gages described in this DAEIS are operated by USGS and are jointly funded by Southwest Florida Water Management District through the USGS Federal-State Cooperative Water Program. Yet few of these streamflow gaging sites are in optimal locations for quantifying the effects of phosphate mining on streamflow. Most reflect the effect of a number of different types of land uses on streamflow (e.g., see the effect of numerous land uses on gaged flows in Appendix E). The scale and permanence of the land alteration resulting from phosphate mining is greater than many other activities of regulatory concerns of the State for which publicly-funded streamflow monitoring is considered a priority. The DAEIS results indicate that less is known about streamflow (the volume of flow) from mined areas than is required to understand the runoff capture from mines, wetland connectivity, or the differences in the baseflow/runoff responses of the reclaimed mine tract from those that existed prior to mining. Streamflow data are used to compute runoff coefficients, such as those that had to be inferred in this AEIS, Appendix E. Streamflow data is | Comment acknowledged. |

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| | | | environmental monitoring that intersects the mission areas of all of the agencies involved and would provide the phosphate-mining industry, public, and numerous stakeholders with a crucially important line of evidence for making future decisions. | |
| 000000430-5 | USGS, Arturo E Torres | Federal Agency | The inability to explicitly quantify flows from mined tracts and smaller regions of subbasins with the currently available data makes it difficult to forecast the cumulative effects of past and future mining on streamflow. The USGS streamflow gages referred to in the DAEIS are far downstream of mined areas and so cannot provide optimal information on the effects of mining on streamflow. Understanding cumulative impacts of mining requires a scientific estimation of the impacts from individual mine tracts and then a quantitative summation of those data not a qualitative description of impacts that have to become large enough to be seen at a downstream location where streamflows have been historically gaged. Currently, we cannot do this. Because the current gaging sites monitor flows from large areas (hundreds of square miles), other land uses in these comparatively large watersheds especially irrigation return-flow from agricultural areas confound the interpretation of mining effects on streamflow. The total drainage basins being gaged (i.e. monitored for streamflow) are much larger than the individual mined areas. Streamflows at the downstream end of these larger watersheds can be comparatively large, so even small measurement errors in the flow rates can lead to large relative uncertainties in any flows that are computed by difference, such as the runoff contribution from 20-40 square mile mining tracts (see Chapter 3 p. 3-35, lines 13-21 for related discussion in the DAEIS). But being a small flow relative to these larger gaged flows (or even indiscernible in contrast to large standard deviations around measured flows) is an artifact of where the current gages are located, not of the importance of impacts to mined areas themselves. In addition, the natural variability around annual mean flows is large, making it necessary to have long periods of record and large impacts to establish statistically-significant trends in flow. Long-term streamflows at the gaging stations being used show both, historical upward trends (Horse Creek near Arcadia, 1970-2004) and downward trends (Peace River at Arcadia, 1935-2004) for the 10, 50, and | As described in Chapter 4 and in Appendix G, the Final AEIS considers the effects of the proposed actions, the offsite alternatives, and reasonably foreseeable actions at the subwatershed and watershed level, consistent with an areawide approach. The streamflow data used provide sufficient information for these analyses. |

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| | | | 90th percentile flows. Increases in low flows (P90 flows) are associated with runoff of agricultural irrigation water (FDEP, 2007). Gaging flows from smaller regions of subbasins that encompass mined areas would lead to more definitive conclusions about mining effects on median daily flows, peak flows, depression storage of runoff in wetlands, and baseflow contributions to streams from the surficial aquifer. | |
| 000000430-6 | USGS, Arturo E Torres | Federal Agency | The DAEIS does not adequately represent the cumulative impacts of the proposed mines at the scale of the subbasins in the Peace and Myakka River watersheds, especially Horse Creek Subbasin. According to the EXECUTIVE SUMMARY p. 26 lines 1-4, most of the proposed mining impacts described in the DAEIS occur in the Horse Creek subbasin of the Peace River Watershed. Yet there are no maps showing the Horse Creek subbasin in the Executive Summary, or in Chapters 1 or 2. The subbasin first appears on a map in Chapter 3, Figure 3-14 on page count 211, when Horse Creek becomes the focus of a streamflow analysis. We suggest that the Horse Creek subbasin also be the focus of analysis of groundwater pumping effects and wetland, stream, and habitat losses. Wetland hydrology, streamflow, and groundwater levels are all interdependent when considered at the subbasin scale (Lee and others, 2010). Thus, the alterations due to mining should focus on this scale throughout DAEIS. The outline of the Horse Creek subbasin should be included in additional maps throughout the report. We could not find, for instance, a map that shows the boundaries for each of the mining categories (1. Historic; 2. Existing; 3. Proposed; and 4. Future) on a map that also shows the Horse Creek subbasin. However, it seems that these mine areas taken together will exceed 50% of the subbasin area (refer back to Table 1 in these comments). Horse Creek is one of six principle tributary subbasins for the Peace River watershed. The subbasin scale has been used to understand cumulative environmental changes to the Peace River watershed in numerous earlier studies (e.g., FDEP, 2007; Metz 2009; Lee and others 2010). | Horse Creek subwatershed and river flows individually and as a component of the Peace River Basin are provided in Chapters 3 and 4 and Appendix G, as is the Horse Creek Stewardship Program. Horse Creek subwatershed is also discussed extensively in Chapters 4 and 5, and is shown explicitly on figures in relation to the proposed mines. Additional figures have been presented in the Final AEIS Appendixes C and D. |
| 000000430-10 | USGS, Arturo E Torres | Federal Agency | The Runoff Calculation Method (Appendix E) is not a scientifically rigorous approach for predicting runoff. No physical processes (wetland depression storage, infiltration, evaporation, streamflows, etc.) are represented in the analysis. The approach is more correctly considered a linear | The methodology was described in Appendix G and J and is considered generally accurate. While the approach appears simple, there are a variety of processes incorporated into the coefficient. |

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| | | | regression analysis, with coefficients adjusted by hand that correlate measured streamflow with yearly acreages of different soil types in the basin and yearly total rainfall. The methods strength is its ability to reflect different land uses over time. The methods shortcoming is that approximately 100 coefficients are applied to these different landuse/soil types (Appendix E - Tables 3 and 4) that are then used in the regression equation. These coefficients represent a large number of tuning factors that cannot be separately calibrated or correlated to physical processes. As a result, the solution is not unique; that is, the coefficients could assume numerous other values and still produce acceptable streamflows. For this reason, the final equation will have limited accuracy for predicting streamflow at another location. Sensitivity analyses and validation are needed. For example, how sensitive are the flows predicted using this equation to changes in any of these coefficients? How well does the equation developed for the USGS streamflow gage Horse Creek near Arcadia (Station # 02297310) predict long-term streamflow at a nearby site - Horse Creek nr Myakka Head (02297155)? | |
| 000000542-39 | Percy Angelo | Private Citizen | -The DAEIS also fails to provide a map showing the relationship of the mines to the impacted rivers.- Unaccountably, the AEIS document also fails to provide any map which shows the rivers involved, the Peace, the Myakka, Horse Creek, and their relationship to the mines proposed. Similarly, despite a section purporting to discuss relative losses in streamflow with reference to USGS gaging stations, there is no map showing the rivers, the gaging stations AND THE MINES. See 3-37 (rivers), 3-42 (some, not all, gaging stations). This information is crucial to understanding impacts. Studies by the US Geological Survey have noted the impact of mines and their clay settling areas which border the Upper Peace River for miles and contribute to its loss of flow. These studies were provided to the Corps in the scoping process. See Letter from Angelo to Corps, April 13, 2011. Despite the clear importance of the actual location of the mines in relation to the rivers, there is NO map in the AEIS which shows this in order to assess whether the impacts of the mining activities which have devastated the Upper Peace may impact the lower Peace (with Desoto and Pioneer), the Myakka and Horse Creek as well. This is inexplicable, and wholly improper. | Mine locations and site aerials are provided in Chapter 2 and Appendix C of the Final AEIS. Literature and past studies are referenced and these show the boundaries based on the USGS gages in various locations of the Final AEIS, including Appendix D. The relationships between the location of the alternatives and subwatersheds were considered and accounted for in the analyses, as described in Chapter 4 and Appendix G. |

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| 000000542-43 | Percy Angelo | Private Citizen | The DAEIS makes a calculation of flow losses by capture for the proposed mines, but never add these losses to those already experienced from existing mines and reclamation delays. How big could those be? In 2012 flows are impacted by a capture area of about 19,000 acres, according to Ex. 1, 4-191. The 2037 capture area, mined and unreclaimed land, is almost twice as large, suggesting a loss of flow twice what we experience today. | Historical flow data used to develop the coefficients implicitly included these effects in the analysis through the calibration process to observed data. The net reduction in flows after mining is small based on literature values (Lewelling and Wylie, 1993). |
| 000000542-58 | Percy Angelo | Private Citizen | As simply one example of the significance of seasonal data, Ex. 4 is a presentation by Terrie Lee of the US Geological Survey to the USEPAs State of the Science Conference on phosphate mining. Page 12 of that presentation demonstrates the modeled depth of water in depressional features and wetlands in the wet season vs the dry season in 2004. The difference is striking and clearly important for an understanding of the functioning of those wetlands: yet the difference would be entirely concealed by an annual average discussion. | Comment acknowledged. |
| 000000542-59 | Percy Angelo | Private Citizen | It is important to put Mosaics water use in perspective. Exhibit 5 is an April 30, 2009 article from the Tampa Bay Tribune identifying the largest water users in the Tampa Bay area, in the third year of a drought. Mosaic was the largest, by many times, using 17.77 billion gallons, with the next largest using 3.22 billion. CF came in at 2.79 billion. The article points out that many of the other largest users, such as agriculture, also can not reduce their use during drought. | Comment acknowledged. Permitted water users were included in the AEIS analysis. |
| 000000542-66 | Percy Angelo | Private Citizen | -The DAEIS modeling of the Floridan Aquifer does not address cumulative impacts-There is no dispute that the potentiometric levels in the Floridan Aquifer have declined by 20 to 40 or 50 feet. 3-65, 4-190. Intensive studies by the USGS attribute this decline to increasing withdrawals, including withdrawals by mining, changes in drainage patterns through the construction of clay settling areas, ditches and canalization of natural streams, mining land reclamation which leaves large clay settling areas (CSAs) which decrease the hydraulic conductivity of the landscape and rainfall declines. See e.g. 3-66. See also Angelo letter, April 13, 2011, and attached USGS studies. Floridan Aquifer declines have led to the drying up of the Upper Peace River and of springs such as Kissengen Springs. Yet you might not know this data existed | The cumulative impacts section of Chapter 4 explains how past impacts are considered in the Final AEIS, along with present and reasonably foreseeable actions. |

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| | | | by reading the Consequences portion, Chapter 4, of the DAEIS. Despite overwhelming evidence of an already existing serious problem, the DAEIS limits its analysis to modeling the additional drawdown from the four proposed additional mines (actually only two of the four since two mines will continue to pump from former mine sites) and then modeling these mines with other uses which it pretends will hold steady or even improve. It does this analysis in a vacuum, ignoring the damage already caused by existing mines. | |
| 000000542-77 | Percy Angelo | Private Citizen | The DAEIS never addresses the cumulative losses of surface flow from mining, even though they are clearly significant.-At no point does the DAEIS do the obvious, calculate the loss in surface flow from the mines proposed, and add it to the loss of flow from existing mines. This is clearly data they have, or could easily access. Ex. 1 includes a sheet from Mosaics Corps permit application for the South Fort Meade extension mine. Like the chart at 4-191 it shows in graph form the mined land not yet reclaimed. But it also describes this land as the Capture Area of existing mines, because these are the acreages of surface water which are retained within the mines and isolated from the surface water system. The totals are staggering, over 25,000 acres in 2000. That the Corps is well aware of the importance of this data is illustrated by its discussion at 4¬ 190 to 191. At 4-191, Ex.1, the same kind of chart is used, but without reference to the fact that the data shown also represents the Capture Area. Clearly this data could have been used, but wasnt to calculate the cumulative loss of surface flows. In fact the chart shows that the mines proposed will lead to a loss of 35,000 acres, almost as much as the highest level ever, in 1995 (Ex. 1, South Fort Meade graph, indicates that amount was about 43,000 acres, the DAEIS claims it was 39,000, either way it was enormous). Bottom line, this data shows that the Corps recognizes the importance of mined land not yet reclaimed as a capture area for surface waters, yet the calculated impact on surface waters, existing mines plus proposed mines, is never provided or considered. | Cumulative impacts are included in Chapter 4 of the Final AEIS. Historical flow data used to develop the coefficients implicitly included these effects in the analysis through the calibration process to observed data. |
| 000000542-78 | Percy Angelo | Private Citizen | The DAEIS acknowledges, and indeed emphasizes, that the process of developing a mine essentially removes the mine area from the surface water system, with ditches and berms around the perimeter and dewatering of the area inside. The mine then uses all water captured within its boundaries, | Comment acknowledged. The Final AEIS modified the assumptions used in the Draft AEIS as described in the other comment responses. Baseflows in natural streams are not captured in active mines; only stormwater that falls on an active block is captured. Additional information on capture |

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| | | | which means that the captured surface water is no longer discharged to rivers and streams. 3-71 to 76. In fact the DAEIS admits that this capture reduces surface flows so that mines may discharge for only a few months a year, or even less in drought situations. There is ample evidence that mining substantially contributes to loss of surface flow. See also 4-231 (indicating that improved aquifer levels may increase baseflow, which will in turn result in more capture by the mine ditch and berm systems, with the result that the rivers will not necessarily benefit from improved baseflow. ) | curves is provided in Appendix G. |
| 000000542-79 | Percy Angelo | Private Citizen | Note that there is serious question whether the 4-191 chart, found in Ex. 1, even shows the full damage since it appears to exclude nonmandatory mined lands. This potential failure is suggested by the fact that past mines, shown in light blue, are claimed to be entirely reclaimed in 2005. Since we know that some tens of thousands of acres of nonmandatory mined lands havent been and will never be reclaimed it appears that they are not included in this chart. (According to the SWFWMD Peace River Comprehensive Watershed Management Plan-Vol. 1, 2001 (Draft), cited in SWFWMD MFL draft for the Upper Peace River, 2-19, some 28,500 acres of nonmandatory mined lands in the Peace River watershed have no funds for reclamation. Adding 28,500 acres to the graph readings for unreclaimed lands would make the 2017 low of 14,000 acres higher by over 200%, 32,500 acres. The 2036 high of 35,000 acres unreclaimed would be 63,500 acres. The actual impact is worse even than disclosed at 4-191, Ex. 1, but in any case it is clear that the DAEIS has never disclosed and discussed the impact of proposed mines as well as mines not yet reclaimed on surface waters. | As described in the introductory section of cumulative impacts (Chapter 4), past actions occurring prior to 1975 resulted in substantial mining without well documented information on reclamation. As noted, land mined prior to 1975 may not have been reclaimed and those acres are not represented in the referenced table. Additional information is provided in this section. |
| 000000542-80 | Percy Angelo | Private Citizen | There is no question that there has been a loss of flow in the Peace River over time- There is no dispute that there has been a loss of flow in the Peace River over time. The DAEIS attributes this primarily to a rainfall deficit. The DAEIS notes a SWFWMD study, believed to be based on Mosaic consultant John Garlanger, that 90% of the flow loss at Zolfo and Arcadia and 75% of the loss at Bartow are correlated to rainfall deficits. 3-43. Look at the other side of those numbers. Ten percent of flow at Arcadia in a river the size of the Peace is highly significant. But the intensive mining during the study period took place further north where the Bartow station | Chapter 3 of the Final AEIS describes flow and rainfall conditions, including this loss in flows contributed to by groundwater users prior to 1970s. Since then, the data indicate that losses are more directly correlated to rainfall. |

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| | | | would have been impacted, with a 25% loss not attributable to the AMO, a staggering loss even by Mosaics own calculations. The findings cited simply illustrate that you can minimize the apparent impact simply by going further downstream and writing off the area in between. This is a tactic used throughout the DAEIS. | |
| 000000542-82 | Percy Angelo | Private Citizen | The DAEIS approach conceals the local effects of mining by measuring far downstream of the impacted areas-The draft AEIS addresses surface flow impacts by assuming a simplistic approach to the overall runoff from a mined area and then comparing that impact to a measured flow at a downstream location, usually the gaging station at the Peace River at Arcadia. But this gaging station, and the others used by the model as well, are relatively far downstream so that localized impacts are hidden. (Note that there is no map which shows mine locations, potentially impacted rivers and the gaging stations identified in the analysis. One must tease this out by looking at several maps together. A more appropriate way to look at impacts would be to look at gaged flows at portions of the basin before and after mining, far enough upstream to see whether there is an impact. This was not done, even though it was proposed by USGS, and urged in the August 13, 2011 Angelo letter. This work would also help identify whether mined and reclaimed lands have continuing impacts after reclamation, for example from the 40% coverage of clay settling areas (CSAs) which are barriers to recharge and sources of increased evaporation. The practical effect of the DAEIS approach is to treat the CFPD as a whole and to conceal local impacts within it. This is unfortunately consistent with the overall approach of the AEIS, which we have criticized: it writes off the CFPD and essentially abandons it all to mining. | FDEP and SWFWMD tend to regulate NPDES and water discharges on a watershed basis. Most literature and previous studies were also conducted on a subwatershed scale using the same monitoring locations as described in Chapter 3 The analysis in the AEIS examined flows on a subwatershed and watershed basis. Additional detailed review will be conducted during State and SWFWMD permitting. |
| 000000542-102 | Percy Angelo | Private Citizen | Also, as noted above, until fully reclaimed and released the mined area is not connected back into the surrounding environment hydrologic system; stormwater is captured and retained on site over thousands of acres. Since reclamation makes no attempt to recreate the subsurface soils and geology (it only recontours the surface and plants vegetation) the groundwater flow systems are permanently disrupted. Clay settling areas, at least 40% of the land surface, are permanent sources of evaporation and barriers to surface water infiltration and groundwater flow. Groundwater | The capture area curves are presented in Chapter 4 and identify a variable acreage of stormwater capture area over the life of the individual mines. Additional discussion of the CSAs and their impact on surface water hydrology is provided in Appendix G. |

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| | | | pumping from the aquifer continues as it is necessary to support revegetation. These impacts, both those which are permanent and those which continue much longer than the 3, 5, 8, 10 or more years assumed in the AEIS, are not considered in the AEIS document. | |
| 000000542-109 | Percy Angelo | Private Citizen | The background section of the DAEIS describes higher levels of magnesium, orthophosphorous, alkalinity and calcium and gross alpha activity at reclaimed basins, 3-88 to 89. It cites the conclusions of USGS studies that shallow groundwater in mined basins has higher levels of several pollutants (specific conductance, alkalinity, dissolved solids, calcium, magnesium, sulfate, iron, manganese and lead) than unmined basins, 3-99 to 100. This FDEP and USGS data clearly shows water quality impacts due to mining, but rather than considering the USGS data in its own background section, or the well known problems with the Kingsford mine complex and ThirtyMile Creek, all of which show clear impacts from mining, the Consequences section, Chapter 4, instead chooses 6 other reference' mines, currently operating, and takes 5 year average discharge data, even though it acknowledges that actual sample results were highly variable, meaning that the average is both meaningless and misleading. 4-111. It describes this data as water quality data' even though that is not the accepted use of the term (water quality usually means in-stream measurements, not discharge measurements). Nevertheless, it compares this discharge data, averaging 5 years of results, to water quality standards, an irrelevant comparison. The comparison tells you NOTHING about whether the discharges comply with NPDES permits or whether the total loadings discharged (measured concentrations time volumes) create a potential water quality problem in stream. See e.g. 4-107. The draft notes further that since discharges took place during high rainfall periods they were probably diluted. 4-111. This means the actual loadings of pollutants were probably quite high. In fact this dilution impact is specifically recognized by the MegaWUP permit for Mosaic. See Ex. 7. The pretended analysis of 6 mines is meaningless; it further does not begin to address the contamination found by USGS and the TMDL studies by FDEP. | The Final AEIS includes additional descriptive statistics for NPDES monitoring records. Plots in Appendix D display the NPDES results from the reference mines over a period of time. Water quality in receiving waters is compared to water quality standards. |

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| 000000542-110 | Percy Angelo | Private Citizen | Confirming the concern about use of average results, the DAEIS reports an occasion of invertebrate impairment downstream of Wingate Creek which it indicated may be due to high rates of mine discharge.' 4-117. While it notes that the invertebrates recovered, the point for the DAEIS must be that mine discharges can indeed have damaging impacts. | Comment acknowledged. |
| 000000542-112 | Percy Angelo | Private Citizen | The lessons from the ThirtyMile Creek reports are clear. The mining companies NPDES reports do NOT tell the accurate story. NPDES violations, whether or not limited, can signal serious pollutant loading problems. Damaging water quality impacts are attributable to both mining and processing. Annual average or longer average data will hide these impacts. These impacts are NOT due to agriculture. Seepage and leaks from areas which are not permitted and not monitored are not only possible, they do in fact exist. Even allegedly clean points within the mining areas are in fact compromised. The state authorities do not have the resources to address water quality issues. And damaging impacts are experienced downstream. The DAEIS dismissal of water quality as an issue is simply indefensible. -The Peace is higher in phosphate than similar rivers in Florida, and has excessive loadings of other pollutants as well, but that is ignored by the DAEIS.-The DAEIS at 3¬ 90 admits that there have been past CSA spills into the Peace with generally degraded water quality. This is nevertheless dismissed because things have gotten better, though no data is given. Id. In fact the USEPAs recent proposal of nutrient standards for Florida proposes phosphorous standards many times higher for Bone Valley rivers, even higher than for other Florida phosphate mining areas. This discrepancy, that somehow phosphate in the Peace and other Bone Valley rivers must be accepted, while tighter standards can be accepted in other mining areas, is never explained. (0.30 mg/L in the North Central region, which also has phosphate mining, versus 0.49 mg/L in the CFPD. See 3-92). The background section of the DAEIS recognizes that there is a likely need to lower nitrogen and phosphorus loading to upstream watersheds,' 3-92. It goes on to recognize that the proposed 0.49 mg/L standard is over twice the concentration targeted for protecting Charlotte Harbor.' 3-93. The nitrogen standards are also twice as high as they need to be to protect the harbor, id., but the Consequences section | Comment acknowledged. |

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| | | | says nothing about the issue except to speculate that FDEP and SWFWMD will have to step up their efforts in the future. 4-239. We understand that water quality management has also been a problem in connection with the closure of gypstacks, with resulting releases causing very high levels of downstream orthophosphate. See Exs 8 and 20, comments of Ralph Montgomery. Additionally, as discussed in our Scoping comments, April 20, 2011, and the Angelo letter of April 19, 2011, phosphate companies have successfully sought variances from water quality standards for dissolved oxygen for their former mine pits/lakes because the pits are too deep to support compliance with dissolved oxygen standards. The solution proposed by CF to this problem is that the fish would learn to breathe at the surface. Bottom line, it is clear that phosphate and nitrogen levels in the Peace are too high, and DO levels in mining lakes are too low, but the DAEIS never addresses the issue. | |
| 000000542-114 | Percy Angelo | Private Citizen | The water quality discussion at 4-111 reports the NPDES discharge data on a 5 year average basis and assumes that is an adequate discussion of water quality impacts. It is not.- Water quality standards are never written in terms of 5 year averages, which, by definition, will obscure and hide the exceedances which actually affect water quality. Acute and even chronic violations can be totally hidden by 5 year averages. The Thirty Mile Creek data discussed above is a vivid example of the insufficiency of relying on long term averages. | Time series plots of NPDES monitoring data are provided in Appendix D. The Final AEIS includes additional descriptive statistics for the NPDES results. The most recent years of data were used to be representative of current conditions. Most NPDES permit renewals rely on the most recent data, and the State's Impaired Water Rule, looks at only 7.5 years of data for verification. |
| 000000542-117 | Percy Angelo | Private Citizen | Ignoring all of this data, the DAEIS generally concludes that water quality is probably not a problem, and if it is, it will be diluted because discharges will occur during times of rain. 4¬ 120 (referring to use by the City of North Port of Big Slough as a raw water source for its potable water supply). If CSAs are redesigned they may present less risk. 4-122. This is not an impact analysis so much as a fingers crossed hope that things wont be any worse than they have been in the past because violations will usually end up being diluted. It is meaningless in light of the failure to even discuss or consider existing data showing real problems, such as the Kingsford/ThirtyMile Creek data. | Comment acknowledged. |

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| 000000542-121 | Percy Angelo | Private Citizen | The DAEIS may be setting up an argument that new CSA standards will prevent spills, therefore they need not be considered. But the history described at 3-153 to 154 disproves this approach. The draft acknowledges spills prior to the massive failure in 1971, and then describes a new spill design. No spills occurred for another 22 years, until two significant spills in 1994. At that point yet an additional new design was created in 1999. It has been 12 years since the new design. Based on the prior history of new design, and failure, one would think the authorities would not tout the success of the new design for at least 22 years, and hopefully more, since the most recent redesign. | Comment acknowledged. Additional discussion of the issues related to CSA spills has been included in Chapters 3 and 4 and Appendix D of the Final AEIS. |
| 000000542-122 | Percy Angelo | Private Citizen | The environmental impact of these spills, both intentional and not, from CSAs and gypstacks, has been inadequately studied but we know that it has been severe. The 1971 spill to the Peace River resulted in the river running gray with CSA wastewater all the way down to Charlotte Harbor. Extensive fish kills were reported. 3-153. The effort to manage the wastewater from the abandoned Mulberry Phosphate gypstacks resulted in spills of process water to the Alafia River, threats to the valuable Bishop Harbor estuary and the dumping of barge loads of contaminated wastewater at sea. Many fishermen attribute the dead zone west of Tampa Bay to this dumping. Costs to close these abandoned stacks exceed $200 million, taken from the trust fund intended to reclaim formerly mined lands. | The Final AEIS addresses the issues related to gypsum stacks and spills in Chapter 3 and Appendix D. |
| 000000542-128 | Percy Angelo | Private Citizen | Fertilizer plant processing uses large amounts of ammonia, with significant nitrogen discharges. Nitrogen as well as phosphorus contributes to the nutrient problem in Floridas rivers, which in turn contributes to downstream estuarine impacts. The DAEIS recognizes the need to lower nitrogen and phosphorus loadings to protect the estuaries, 3-92. Exclusion of chemical plants and gypstacks simply conceals this problem. | Section 1.3 and the waste management section in Chapter 4 of the Final AEIS address how the direct and indirect effects of fertilizer plants and phosphogypsum stacks are beyond the scope of this AEIS. They are addressed as part of the cumulative impacts analysis. |
| 000000542-166 | Percy Angelo | Private Citizen | As noted above, significant issues have simply been left out of the AEIS: Charlotte Harbor impacts, radiation, cumulative groundwater and surface water impacts, and gypstacks are simply ignored or excluded. | Section 1.3 and the waste management section in Chapter 4 of the Final AEIS address how the direct and indirect effects of fertilizer plants and phosphogypsum stacks are beyond the scope of this AEIS. The other resources areas are addressed in Chapter 4 of the Final AEIS. |

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| 000000542-174 | Percy Angelo | Private Citizen | Additionally, our scoping comments called your attention to a study proposed by the USGS on Little Charlie Creek to determine the functioning of a creek system before mining. This very inexpensive study would also have provided a method for monitoring performance, as required by the CEQ. This very reasonable work was not performed. | Comment acknowledged. |
| 000000542-175 | Percy Angelo | Private Citizen | The DAEIS notes that there is good flowdata is missing for the Myakka because it has no gaging stations. 4-97. An obvious and necessary solution is to begin gaging on the Myakka so that that material becomes available. This is a program which will last for decades, yet the Corps is not taking obvious steps to provide accurate data about the results of the mining it proposes to approve. | Comment acknowledged. The USGS flow monitoring program is funded by the SWFWMD, not the USACE. The City of North Port started monitoring flow at more locations near its intake in 2007. Additional analyses are planned by the SWFWMD when there is enough of a record to utilize (about 3 to 5 more years). |
| 000000542-184 | Percy Angelo | Private Citizen | -The DAEIS also fails to provide a map showing the relationship of the mines to the impacted rivers.- -The DAEIS never provides a cumulative analysis of surface water flow reductions and wetland and other habitat losses though there are indications they will be highly significant- Ex. 2, Figure 2-3, SWFWMD Minimum Flows and Levels for the Upper Peace River, August 20, 2002 Draft. | Cumulative impacts were assessed in Chapter 4 of the Final AEIS and in various appendices for individual resource categories. |
| 000000542-189 | Percy Angelo | Private Citizen | The DAEIS inadvertently reveals the great value of the water which the mining companies use for free.- Ex. 11, Phosphate: Moroccos White Gold, Bloomberg Businessweek, November 4, 2010, www.businessweek.com/print/magazine/content/1046/b4203080895976.htm. G. The DAEIS Surface Water Discussion Fails to Provide a Cumulative Discussion of Impacts p. 15. -The DAEIS never addresses the cumulative losses of surface flow from mining, even though they are clearly significant.- -There is no question that there has been a loss of flow in the Peace River over time- -The DAEIS approach conceals the local effects of mining by measuring far downstream of the impacted areas- -But, even taking the data contained in the AEIS, the mine impacts are significant. H. The Destruction and/or Insufficient Reclamation of Wetlands and Surface Waters Have a Permanent Impact on Ground and Surface Water Systems. p. 18 -Disruption of surface and groundwater flows to creeks and streams by incomplete, though standard, reclamation is permanent but is never discussed and no inventory of wetland losses, past or future is ever provided- -The DAEIS never acknowledges the | The Final AEIS addresses local and downstream surface water delivery for the individual Applicants' Preferred Alternatives and the cumulative effect of multiple mines at various times during the study period. The relative impact of the CSAs is included in Appendix G. |

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| | | | permanent damage to base flow from CSAs- | |
| 000000542-196 | Percy Angelo | Private Citizen | M. The Water Quality Discussion Fails to Consider the Primary Impacts on Water Quality from Mining. p. 27 Ex. 18, www.dep.state.fl.us/water/tmdl/docs/tmdls/final/gp3/ThirtyMileCreekDOTMDL.pdf. Ex. 19, ftp.dep.state.fl.us/pub/labs/lds/reports/9501.pdf. -The Peace is higher in phosphate than similar rivers in Florida, and has excessive loadings of other pollutants as well, but that is ignored by the DAEIS. Ex. 20. Ralph Montgomery, Long-term Water Quality Trends and Changes in the Peace River Relative to the Influences of Phosphate Mining, USEPA State of the Science of Phosphate Mining, 2011. -The background discussion reveals loss of fish species and habitat in the Peace watershed but the Consequences discussion ignores the issue- | Potential water quality impacts are addressed in Chapter 4 and Appendix D of the Final AEIS. |
| 000000542-197 | Percy Angelo | Private Citizen | -The water quality discussion at 4-111 reports the NPDES discharge data on a 5 year average basis and assumes that is an adequate discussion of water quality impacts. It is not.- -The parameters monitored at NPDES outfalls are very limited and do not begin to address the universe of water quality risks- Ex. 21, Draft Expanded Site Inspection Report, Borden Chemical Company/Tenoroc Mine, Auburndale, Polk County, Florida, Prepared for USEPA Region 4, January 8, 2001. Ex. 22, EPAs Phosphate List, November 5, 2007. A contract was issued in 2010 for cleanup of the Stauffer Chemical Site in Tarpon Springs, USEPA Superfund and Brownfields News Release, Construction Contract Issued for Stauffer Chemical Site in Tarpon Springs, February 10, 2010. Ex. 23, TRI found at http://www.epa.gov/tri/. See also ManaSota-88 Newsletter, April 12, 2012, with a list of quantities of TRI chemicals released. | The Final AEIS includes additional descriptive statistics for NPDES monitoring results, and time series plots which are included in Appendix D. |
| 000000547-9 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.98: Discourage development in the undeveloped 100-year floodplain. 4.99: Implement floodplain management strategies to prevent erosion, retard runoff, and protect natural functions and values. | Comment acknowledged. The floodplain is considered during the permitting process. |

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| 000000550-10 | POW & LBC, James Cooper | Environmental Organization | FLAW IN DAEIS: CUMULATIVE IMPACTS ON CHARLOTTE HARBOR MISSING? The 4,400 mile Charlotte Harbor Watershed managed by the CHNEP via EPA oversight is clearly impacted via reduced downstream flows to the Harbor originating in the CFPD due directly to DAIES identified industry Phosphate Mining and must be included in any reasonable NEPA rules watershed approach Cumulative Impacts analysis. Yet the DAEIS avoids this in violation of NEPA and in contradiction to this new Federal rules. As the Corps needs more time, then while they are updating &expanding this DAEIS to meet NEPA standards, they can add in these key features. | Cumulative impacts, including those associated with Charlotte Harbor, are addressed in Chapter 4 of the Final AEIS. |

## Regulatory Process

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| **Summary Comments** | | | | |
| **REG-1** | | | **Some commenters specifically requested that the USACE defer issuance of the applicant-requested permits until completion of the AEIS.** | **The USACE is conducting the detailed permit applications review in parallel with the AEIS preparation. Permits will not be issued prior to completion of the Final AEIS. Rather, the final permit application review and resultant decisions based in part on information contained in the AEIS.** |
| 000000199-3 | James Cooper | Private Citizen | The second comment I want to make is that June 1st, when they released the AEIS study of all four mines as an area study, they also separately introduced four individual mine permits for the four mines in the study. And I believe it's totally inappropriate to go after the permits until the study is done. So I'm formally requesting that they withdraw the four permits until after the final record decision is made on the mines. And then they put the permits out and take a look at the permits based on the conclusions made in the studies, or else why are we doing the study? What's the point of the study? There is not really enough information to understand what the future and facts are. So that is my problem with that. And, for example, I commented on the Ona mine back in 2002, it's a huge report. My comments were completely ignored, I would say, and none of that is in the individual permits right now. So, to me, theyre inherently flawed and inappropriate and I think they should-- they can't withdraw them but they can just put them on hold until the study is done. Okay, that is my comment on four individual mines, and you know what they are but I can name them, if you like.The Ona, the Wingate East, DeSoto mine, Mosaic mines and South Pasture.Okay. | Included in summary response above. |
| 000000205-3 | Protect Our Watersheds, Inc., Helen Jelks King, O.D. | Environmental Organization | We are requesting that those permit requests are put " on hold " until after the final AEIS has been approved and the Record of Decision is made | Included in summary response above. |
| **REG-2** | | | **A number of commenters expressed concern that preparation of the AEIS had been unduly influenced by the applicants, Mosaic and CF Industries. Some felt that insufficient information had been provided because of the USACE's schedule being followed for AEIS preparation. Others were concerned with the involvement of the third party contractor because of its other work assignments from the USACE and/or from the applicant companies (either past** | **The selection of the third party contractor for the AEIS included a thorough review for any potential conflict of interest. As a part of this review, the third-party contractor signed a disclosure agreement, stating that there was no conflict of interest. Comments and other information provided by the applicants are treated the same as any other comments and information provided by the public or other stakeholders. The information provided is reviewed for** |

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| | | | **or ongoing work). Commenters were also concerned that cumulative impacts did not discuss plants, gyp stacks, or radiation.** | **accuracy and relevance and as necessary additional analyses conducted where these analyses may either verify or improve on the quality and usefulness of the information provided. The Final AEIS includes additional information on radiation effects and the management and regulatory responsibilities for Gypsum Stacks and why they are outside the scope of the AEIS.** |
| 000000017-1 | Kristi Patel | Private Citizen | It would be pertinent to maintain "open" time-frame of area-wide study without pressure from industry; to assure the public interest. It appears that we are in a crucial and perhaps pinnacle time in our state. Those in decision making capacity within government regulation and other public service will give account for regulatory decisions that are made on insufficient or potentially biased data due to history of Industry's documented "overt influence over legislative process" as historically evident. | Included in summary response above. |
| 000000273-3 | Diane Desenberg | Private Citizen | That means that it is up to outside reviewers to determine whether the suggested environmental mitigation is up to snuff. I believe that a look at the financial incentives and the business model of the phosphate industry is required in order to perform effective environmental analysis. And for that, I start with a look back at history. Phosphate companies want us to trust them and claim that they have the technology needed for proper mitigation and that they have learned from their mistakes. So, what were their mistakes? In 2001, I read with dismay about the Piney Point phosphate operations in Manatee County. Due to financial problems, they could not pay their electric bill to keep pumps running, let regulators take over the plant, and then declared bankruptcy. The Florida Department of Environmental Protection (DEP) had paid over $200 million in clean-up costs for the treatment of acidic wastewater at this plant. The environmental costs were also high. The DEP dumped millions of gallons of waste into Bishop Harbor in late 2001. And after a subsequent failed clean-up attempt, the DEP started dumping in the Gulf of Mexico in 2003. At one point, the Florida Wildlife Federation suggested that the DEP get federal Superfund designation. Then there's CF Industries (CFI). Between December 2004 and January 2005, inspectors from the Environmental Protection Agency (EPA) and the DEP discovered that CFI was treating, storing and disposing of hazardous wastes in the stack and associated | Included in summary response above. |

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| | | | ponds at its Plant City facility without a permit and failing to meet land disposal restrictions required by the Resource Conservation and Recovery Act (RCRA). In addition, they had not provided sufficient financial assurance for closure, long-term care, and liability for this facility. Their civil penalties for violating RCRA were $701,500 and they were required to put up $163.5 million in financial assurances toward the proper closure and long term care of the facility. Additionally, they were required to spend $12 million to reduce and properly manage hazardous waste at their facility. And how about Mosaic. Prior to Hurricane Frances in 2004, both DEP and Hillsborough County directed Mosaic (then Cargill) to address problems with wastewater storage capacity and the stability of the stack at their Riverview fertilizer plant. Warning letters were issued after heavy rains lowered the wastewater storage capacity. Then came the winds and rains of Hurricane Frances, resulting in a breach, resulting in a 65 million gallon wastewater spill into Tampa Bay, resulting in a massive local fish kill. A settlement with the EPA and the DEP resulted in a $270,000 penalty for water quality violations. Subsequent investments of $30 million were required to reduce on-site wastewater. And more was required to improve the wastewater treatment itself. Based on these case histories, the business model seems to be to take the minimum measures required by law to protect the environment. When possible, wait until enforcement commences to take these measures. Extract the phosphate and bring in profits, before reclamation begins. If possible, avoid reclamation activities by selling the operation, declaring bankruptcy, or some other legal avenue. I do not know whether these are representative of all the companies involved. Regardless, they are totally rational from a financial perspective. | |
| 000000348-1 | Barbara Angelucci | Private Citizen | 1.3 Proposed Action 1-16 The ACOE is relying on a consulting firm that had and will continue to have dealings with Mosaic. The ACOE also received instructions from Mosaic detailing instructions for the preparation of the AEIS. It is evident that Mosaic is paying for a study that will steer away from area wide mining activity, limit cumulative impacts discussion, not discuss plants, gypstacks, or radiation, use old existing information, and rush the process through. A valid AEIS must include these issues as they are cumulative impacts. | Included in summary response above. |

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| 000000368-1 | Kevin P Wayne | Private Citizen | It seems to me that the intended publication, which is about to be released concerning phosphate mining may be either bias or limited. It appears that the corps is purposefully limiting important information which should be included included in the Draft Areawide Environmental Impact Statement for phosphate mining. | Included in summary response above. |
| **REG-3** | | | **Some commenters stated that the document was inadequate and suggested a revision of chapters 1, 4, and 5. Specific omissions included in these comments were the limiting consideration of impacts to the boundary of the CFPD, not including infill projects, not covering protected species, provide greater avoidance of wetlands and EFH.** | **Additional input from the CHNEP and other stakeholders have been used to supplement where appropriate chapters 1, 4, and 5 as well as other sections of the document as needed. This has included a revision of impacts to wetlands in the form of a conceptual wetlands avoidance approach that is part of a mitigation framework described in Chapter 5. The Final AEIS includes more detailed information clarifying infill parcels, whether specifically identified or generally considered, to note that they are acknowledged to be factors affecting these projected operational periods. The evaluations of effects of infills are considered addressed in the context that these effects would be extensions of those characterized in the AEIS analyses. The CFPD was not used as a boundary in the AEIS except in the consideration of direct effects of mining and the identification of offsite alternatives, which are assumed to be limited to the CFPD. Evaluations of indirect or cumulative effects were extended beyond the boundaries to the extent necessary based on analyses that indicated impacts could occur beyond the CFPD including estuaries and federally protected species. Downstream estuarine system effects are addressed in the context of predicted mining-related reductions to downstream water delivery through the Peace and Myakka Rivers. Coordination with the NMFS regarding EFH has been conducted and appropriate follow-on assessments if required will be completed.** |
| 000000397-20 | US Environmental Protection Agency, William L Cox | Federal Agency | We appreciate the opportunity to serve as a Cooperating Agency to USACE and to provide comments on this DAEIS. Based upon our review, EPA Region 4 has assigned this DAEIS a rating of EC-2, meaning we have requested additional information on several important areas, as explained above, including: 10-mile threshold of practicable pumping distance; permit durations; better wetlands impact avoidance and minimization strategies; compensatory mitigation; and | Included in summary response above. |

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| | | | improvements to some other areas of the document. Please include us in any notifications of future interagency meetings, and please forward a copy of the FAEIS when it becomes available. If you wish to discuss EPA's comments, please contact us at 404/562-9611 (mueller.heinz@epa.gov) or at 404/562-9330 (cox.williamL@epa.gov). Finally, as discussed previously, in accordance with our 404(q) process EPA will also be notifying the USACE by separate letter that the four mining projects may result in significant impacts to Aquatic Resources of National Importance (ARNIs). | |
| 000000542-40 | Percy Angelo | Private Citizen | One further unfortunate twist of the DAEIS approach is that we actually dont know how much mining will be involved. In addition to the inconsistencies from page to page within the DAEIS, the Corps explains that the Surface Tract was excluded from the AEIS because it is small enough to be permitted under the Corps nationwide permit program, without the usual Corps, or public review. Infill projects around the boundaries of existing mines may also be added, without being accounted for in the AEIS. 4-29. These additional but not disclosed projects have the effect of extending the operating years, footprints and impacts of mines without being factored into the models and analysis. A phosphate mining AEIS should include all mining, irrespective of permitting categories. Any mining area excluded from this analysis should not be permitted absent preparation of a supplemental EIS. | Included in summary response above. |
| 000000548-3 | National Oceanic and Atmospheric Administration, National Marine Fisheries Services, Miles M Croom | Federal Agency | Finally, the project area is within the known distribution limits of a federally listed threatened species under purview of NMFS. In accordance with the Endangered Species Act of 1973, as amended, it is your responsibility to review this proposal and identify actions potentially affecting endangered or threatened species. Determinations involving listed species should be reported to our Protected Resources Division (PRD) at the letterhead address. If it is determined the activities may adversely affect any species listed as endangered or threatened under PRD purview, consultation must be initiated. | Included in summary response above. |

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| 000000550-25 | POW & LBC, James Cooper | Environmental Organization | Other Key Item NOT CONSIDERED by the CFPD DAEIS for Cumulative Impact Analysis: Missing: Federal Agency Review: It appears, a key required Essential Fish Habitat Review has NOT been done for any of these 6 future mines. QUESTION: where is the documentation from The National Marine Fisheries Service (NMFS) on an Essential Fish Habitat (EFH) review - for any of these 6 Mines & especially when we known several mines will be operating at the same time, we know they impact downstream freshwater flows to Charlotte Harbor & the lower Peace river which the Endangered Sawfish require in its protected juvenile nursery habitat area? | Included in summary response above. |
| **REG-4** | | | **Some commenters were concerned that insufficient discussion was included regarding dust and other air quality issues generated by mining operations, and associated potential effects on public health. Some of these concerns were associated with earth moving efforts during the mining itself while others were more focused on the potential for increased public exposure to radioactive particulates post mine reclamation, with particular focus on reclaimed clay settling areas.** | **The AEIS sections addressing fugitive dust and air quality concerns as well as public exposure to radioactivity following mine reclamation have been expanded in the Final AEIS in Section 3.3.7.7. Mine operations will be required by relevant regulations to be in compliance regarding issues that might otherwise affect human health or the environment.** |
| 000000013-6 | Norma and John Killebrew | Private Citizen | 4) Mining units are restricted to a certain number of acres due to damage to the environment and neighboring residents. Mosaic circumvents this Florida Statute by permitting adjacent mining units. There are three mining units north of our property currently in various stages of strip mining. East of us just a couple of miles is another 3000 to 5000 acres also in various stages of strip mining. To the south of our property, again within a short distance, is another 3000 or so acres in various stages of strip mining....along with 4000 acres or so "mitigated" with almost no hardwood trees...and scars from mining. So it is no wonder that dust in our area reaches the level that boggles the mine. I have a picture of a dust cloud spanning from Ft. Lonesome intersection of 39 and 674 to Ruskin....the picture portrays the cloud to resemble a long funnel, much like a tornado like image. Too many acres open at the same time contributes to the dust.See #3 information. | Included in summary response above. |
| 000000015-4 | Kristi Patel | Private Citizen | Excavation of these regions provide dust/air particles that are not presently detectable in regulatory process. | Included in summary response above. |

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| 000000387-10 | Mary Olsson | Private Citizen | The future implications of current practices as they relate to issues of public perception, uncertainty, measurability, and estimation of harm, especially a higher radiation incidence found in past sites, should stimulate regulators and the public view in establishing goals for a more stringent risk management approach for the operation and remediation of mining operations. | Included in summary response above. |
| 000000542-131 | Percy Angelo | Private Citizen | O. Radiation and Air Emissions Associated with Mining Present Serious Public Health Concerns. -There is no discussion of the serious public health impact from radiation as a result of the mining and processing activities-Radium 226 and uranium are natural constituents of the phosphate matrix. In the natural state however, these constituents are diluted by the matrix itself and covered by 50 feet or so of other materials, sheltering the public from the effects of that radiation. When the overburden is removed the matrix with its radioactive constituents is exposed. When that material is processed the radioactive constituents are concentrated in the process waste, the sand and clay from the beneficiation plant and the process water and waste gypsum from the fertilizer plants. When that material is disposed, in clay settling areas, back at the mine site in the mine cuts, or in gypstacks, the public can be exposed to that now concentrated radioactive material. Clay at a CSA may have 20 times the radiation of the average Florida soil. Radioactivity and Phosphatic Clay Ponds, fipr.state.fl.us/Phosphate Primer. Ex. 24. The uranium and radium 226 convert to radon gas which is readily released and is a known health hazard. In the lungs it decays to other radioactive elements, so-called radon daughters, which present serious health risks. USGS reconnaissance sampling in 1988-1990, showed gross alpha activity higher in mined than unmined basins, with gross alpha as high as 10.2 pCi/L (compared to 3.54 pCI/L in unmined basins). This was dismissed in the DAEIS as less than the Florida water quality standard of 15.0 pCI/L, 3-89, though clearly a one time test showing levels that much higher, and closer to the standard, in mined basins deserves further consideration. Other data at 4¬ 107 shows 5 year average gross alpha levels at South Pasture as high as 12.27 pCi/L. It is pretty clear that if a 5 year average shows levels close to the standard, there necessarily were numerous instances of violation of that standard. The | Included in summary response above. |

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| | | | draft confirms this in noting the high variability in the samples taken. 4-111. | |
| 000000550-21C | POW & LBC, James Cooper | Environmental Organization | The need to restore the physical blight and negative hydrological impacts of the numerous Clay Pit-Settling Pond Areas (CSAs) which take up 40% of mined land sites and stay in place for 20 years or more must be addressed. How to do it is not addressed in the DAEIS? How to account for the LOSS of Surface Water Flows during the 20-30 year lifespan of the CSAs, loss of surface flows while mined lands are un-reclaimed & the permanent loss of Surface flows forever due to the Toxic GYPSTACKS lands which are forever lost & quarantined must be accounted for in financial terms, as well. | Included in summary response above. |
| **REG-5** | | | **Commenters advocated development of better regulations, policies or permit conditions which would be more protective of the environment against unavoidable environmental impacts associated with phosphate mining. Other suggestions were that the USACE oversee existing reclamation policies and programs primarily under state jurisdiction and establish new policies on withdrawal limitations, set limits on number and size of CSAs, and base decisions on future regulatory changes, and set up a data center to monitor mining activities. There were also requests that permit durations be shortened. Some commenters proposed changes in the duration of permits based upon the need to review success in reclamation. The objective would be to mimic processes for compliance used by the PCS mine in North Carolina.** | **The development of new federal or state policies or regulations for phosphate mining is beyond the scope of the AEIS review or the reviews of the four individual projects. The Final AEIS does include recommendations for environmental impact minimization and/or mitigation as a conceptual framework in Chapter 5. Also, the USACE and USEPA have had discussions means to review possible changes in permit conditions, including permit duration. Discussions have been conducted between the USACE and the USEPA regarding potential changes in permit conditions. However conditions imposed by other Records of Decisions are not relevant to the applications currently under consideration.** |
| 000000192-1 | ManaSota - 88, Glenn Compton | Environmental Organization | Dear Mr. Fellows:No mineral better illustrates the future danger the United States faces from neglecting to develop a comprehensive mineral resource management policy than phosphate. The depletion of this essential non-renewable resource will result in serious economic and national security problems for the United States. | Comment acknowledged. |

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| 000000192-4 | ManaSota - 88, Glenn Compton | Environmental Organization | If some action is not taken to slow down the present extraction rate of phosphate yearly, Florida will not be a significant factor in the world supply structure within 25 to 35 years. Our country will increasingly have to rely on other countries for phosphate.Florida's phosphate industry has enjoyed a phenomenal financial bonanza guaranteed to encourage rapid extraction of the resources aided by inadequate environmental laws and regulations.To permit the continued, rapid depletion of this essential non-renewable mineral will not only result in serious economic and national security problems for the United States, it will leave Florida with perhaps centuries of costly water, air and land clean-up that will far exceed whatever short-term profits and other indirect economic benefits of the industry there might be.Projections for phosphate mining longevity in Florida are overly optimistic.The phosphate resources cited in the DAEIS as a likely supply are, of course, much greater than reserves and cannot possibly be mined under existing conditions. It is doubtful these resources will ever become reserves since the cost of producing phosphate in Florida - especially energy related costs - will go up as fast or faster than the sale price of phosphate so that billions of tons of resources may never advance to the reserve classification.Potential improvements in conservation, substitution and recycling are going to require a more definitive commodity-specific analysis. Market mechanisms will not beadequate to insure conservation of Florida's phosphate resources. Working competitive markets in phosphate minerals don't really exist anymore. This fact coupled with our still cheap, by world standards, energy costs, free groundwater. subsidized transportation etc. aids in promoting the rapid extraction of this vital mineral. | Included in summary response above. |
| 000000192-5 | ManaSota - 88, Glenn Compton | Environmental Organization | What this means is, we are permitting the phosphate industry to degrade our environment and without any thought of conservation, are permitting ourselves to be put in the same dependency situation that we are with oil.It is obvious that we are in an extremely precarious position because of our dependence upon foreign suppliers of non-fuel minerals, unfriendly as well as politically unstable ones. This points up the need even more dramatically to develop a policy to conserve phosphate reserves. | Included in summary response above. |

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| 000000192-7 | ManaSota - 88, Glenn Compton | Environmental Organization | It seems far sounder policy to retain the domestic phosphate mineral reserves we have, rather than continue to let them be extracted at the present giveaway prices.To say that the decline of phosphate non-renewable resources is no real cause for concern does a remarkable disservice to our national interests. Our national security goals cannot be met if we let this situation of phosphate mineral dependence grow.While we do not totally discount government research and development efforts, we certainly do not view them as a miracle solution to our phosphate mineral problems.We feel the most important phosphate mineral policy objective is to ensure conservation of our domestic supply and that attainment of this objective is of paramount importance as yielding the greatest benefits to the nation.While industry generally protests each proposal that arises to protect human health and the environment - citing certain economic doom, the fact is environmental rules and regulations have resulted in innovative techniques which are helpful to industry being developed & positive economic gains to the national economy in the form of jobs. | Included in summary response above. |
| 000000192-9 | ManaSota - 88, Glenn Compton | Environmental Organization | ManaSota-88 requests the final AEIS report recommend the development of a non-renewable resource policy for the mining of phosphate.We recommend this policy include:(1) the sequence of mining;(2) the amounts of phosphate permitted for overseas shipment;(3) development of methods to recover phosphate from sewage and solid wastes;(4) domestic application of fertilizers (the latter two proposals will also aid in cleaning up the nation's waters)(5) an inventory of existing phosphate reserves and resources - the validity of the present figures regarding resources and reserves is in doubt.(6) future land use restrictions when mining companies, as at present, refuse to return lands to the radiation levels that existed before mining, this is both economically and technologically feasible.(7) the effects of unlimited mining of a non-renewable resourceAs far as the impact of such a policy on our so-called free enterprise system, subsidized by government as it is, the survival of our nation is threatened by the present rate of phosphate mining. Phosphate is a mineral which is basic and absolutely essential to our national well-being. It is vital to agriculture and has no substitute.The people pay the costs of mining in Florida in increased water | Included in summary response above. |

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| | | | treatment costs and through costs of development of additional, inferior, and expensive technologies to treat water sources. | |
| 000000272-20 | Sarasota County, FL, Christine Robinson | County Government | Section 3.3.2.6 describes the District "moving toward" EMPS to minimize dewatering impacts. If the Corps sees this management as appropriate to mining management they should consider having this as a recommendation since it is not required by law or rule at this time. | Included in summary response above. |
| 000000348-8 | Barbara Angelucci | Private Citizen | 1.5 Permit Actions Required - 1-26The long-term duration of permits is not acceptable. 40 years is a major problem as there are many unknowns to allow for mines with 40 years. A term of 2 5 or 10 years needs to be adopted. Because of the continuing number of variances granted Mosaic, a majority of permits are already 20 or 30 years. Florida already has thousands of unreclaimed acres that may never be reclaimed. There needs to be severe time limits on permits. | Included in summary response above. |
| 000000553-8 | Percy Angelo | Private Citizen | Monitoring, Adaptive Management and Independent ReviewAs an example of limitations intended to insure compliance with mitigation assumptions, the Record of Decision for the PCS phosphate mine in Beaufort County, North Carolina, ID: 200110096, June 3, 2009, contains a number of provisions, approved by the Corps, designed to insure that the assumptions made in the permit were in fact correct and that mitigation did in fact work. Thus condition K required extensive water quality monitoring and condition S required a Plan of Study to address the effects of the reduction in headwater wetlands and their use as nursery areas for fish. Then condition U required the establishment of an independent multidisciplinary panel of researchers to review the monitoring required by the permit in conditions K and S. Conditions W and X required the independent panel to meet yearly to provide input to the regulatory agencies on the impacts observed and whether they were in accordance with expectations at the time of permitting. These reports could lead to changes to the mine plan, compensatory mitigation plan or monitoring plan, and the Plan of Study was itself to be reviewed every 3 to 5 years. All data, including panel discussions, is to be available to the public.The message of the CEQ mitigation and monitoring guidelines, 40 CFR 1502.9 (c), and the PCS ROD, is that monitoring of the impacts of mining, | Included in summary response above. |

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| | | | and response by permit changes, mining plan changes and compensatory mitigation plan changes if necessary should be part of the DAEIS. The data collected must be subject to independent review and the process transparent to the public. And then, as confirmed again in the PCS ROD, response to comments C.3, the Corps reserves the right to modify, suspend or revoke the permit if appropriate. | |
| **REG-6** | | | **Several commenters were concerned that state and federal activities did not consider the allowance of variances to various reclamation plans in propose that permitting agencies oversee the results to ensure they proceed from the sound manner. Included in these comments were suggestions for a regional information database for coordination of reclamation and land-use planning. Similar comments suggested that reclamation should be accelerated rather than offering variances and extensions of reclamation schedules.** | **The USACE does consider historical records of permitting decisions that relate to areas under their jurisdiction and as noted in the Final AEIS, the USACE acknowledges the integration of state reclamation with the USACE mitigation requirements have a synergistic effect on the ultimate objectives prescribed in the final permits. However, the USACE does not have authority to evaluate the variances that may or may not be permitted by the state.** |
| 000000542-5 | Percy Angelo | Private Citizen | While we point out many areas where data is ignored or issues are dismissed without discussion, the graph provided above, and in Ex. 1, is illustrative of the problem occurring throughout the document. The graph of areas mined and not reclaimed at 4-191 (citations to the DAEIS will be to the chapter number and page), shows that acreage mined and not reclaimed peaked in the past in about 1995 at about 40,000 acres, and will fall to about 14,000 acres in 2017, suggesting improvements. But then, with the new proposed permits, acreage mined and not reclaimed will rise dramatically to some 35,000 acres in 2036, almost a doubling of impacted land, and the numbers will actually be worse if the mining companies usual delays in reclamation continue and if infill permits not included in the AEIS are added. | Included in summary response above. |
| 000000547-5 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.61: Permit mining activities in regionally-significant natural areas only when it has been demonstrated/ documented that the areas can be successfully restored, consistent with the requirements of permitting agencies and when no permanent adverse environmental impact will result. 4.62: Ensure that the exploration and development of mineral resources only proceed in an ecologically sound manner. 4.63: Design mining practices to protect regionally-significant natural resources from the adverse effects of resource extraction. | Included in summary response above. |

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| 000000547-7 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.67: Implement a regional mining clearinghouse or data center to facilitate the coordination of regional information on phosphate mining activities and the coordination of reclamation and future land use planning. | Included in summary response above. |
| 000000549-3 | Florida Department of Environmental Protection, Lauren P Milligan | State Agency | Based on the information contained in the draft AEIS and enclosed agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the proposals continued consistency with the FCMP, the concerns identified by the DOS must be addressed prior to project implementation. The states continued concurrence will be based on the activities compliance with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during subsequent regulatory reviews. The states final concurrence of the projects consistency with the FCMP will be determined during the environmental permitting process in accordance with Section 373.428, F.S. | Included in summary response above. |
| 000000553-7 | Percy Angelo | Private Citizen | The chart attached suggests that a possible way to mitigate the impacts of mining would be to require an accelerated reclamation schedule that lowers the capture area peaks. Unfortunately the practice at the state level has been to extend reclamation schedules via variances and otherwise rather than to accelerate them, and the Corps does not seem to take an interest in this issue. The 4-191 chart shows that the regulators may be missing a valuable opportunity. | Included in summary response above. |
| **REG-7** | | | **A number of comments addressed the Draft AEIS evaluation of conceptual buffers around prioritized environmental resources indicating support of the concept but some felt that the buffers evaluated were excessively large. Support for more refined buffers and conservation easement establishment around prioritized habitats was expressed, with frequent reference to using 25-year or 100-year floodplains as guidance for establishing zones protected from mining.** | **The consideration of buffers around natural areas and setbacks around streams have been revised in the Final AEIS an are discussed as part of a conceptual mitigation framework that the USACE may use as part of the Section 404(b)(1) evaluation for each project. As noted in the Final AEIS specific setbacks ready to floodplains are prescribed by some of the counties and are included as part of the mitigation planning by the USACE.** |

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| 000000192-10 | ManaSota - 88, Glenn Compton | Environmental Organization | No mining should occur within 1,000 feet of any river, stream or creek. Conservation easements should be required for all rivers, streams, creeks and wetlands. Hardwood wetlands should not be mined as the technology does not exist to restore hardwood wetlands.Mining of minor tributaries and bayheads adjacent to major streams will also further contribute to water degradation. Suffice it to say, it poses no positive benefit to the area, region or nation. Carefully reviewed, it can only be considered an economic negative. | Included in summary response above. |
| 000000272-46 | Sarasota County, FL, Christine Robinson | County Government | It is recommended that, with the exception of approved temporary crossings, all mining be excluded from areas of the 100 year floodplain within the CFPD. | Included in summary response above. |
| **REG-8** | | | **Commenters indicted an opinion that the AEIS scope should address environmental issues associated with fertilizer manufacturing plants and how phosphogypsum stacks impact environmental resources within the AEIS study area. Gypstack effects on offsite discharges and downstream surface waters as well as on groundwater were topics also mentioned as issues of concern. Some commenters also expressed concern over spills from CSAs. There also were comments concerning the analysis of radiation impacts.** | **Direct and indirect effects of gypstacks are outside of the scope of the AEIS. This position has been clarified in the Final AEIS. Gyp stacks are considered in the cumulative effects analysis, in accordance with CEQ regulations and guidance in Section 3.3.7.7. Regarding the CSA spills issue, this Section also includes a summary of these issues although the USACE defers to the state which has primary responsibility for spills management. Discussion of radiation impacts have been expanded in the Final AEIS as they relate to other mining operations in this Section also.** |
| 000000272-48 | Sarasota County, FL, Dianne Robertson | County Government | As indicated by Sarasota County in the Scoping Process, staff re-asserts that the US Army corps of Engineers should consider in the AEIS the connected action with phosphogypsum stacks and their management. | Included in summary above. |
| 000000275-3 | Helen King | Private Citizen | 3.1 While the study recognizes the need for fertilizer plants and phosphogypsum stacks, it doesn't consider the detrimental environmental impacts of them. All of the mining and processing operations involved with phosphate extraction are connected and by CEQ regulations, should be studied. | Included in summary above. |
| 000000281-30 | Sandra Ripberger | Private Citizen | 4.11.12.1 Phosphogypsum Overview This very brief mention does not realistically document the problem of these permanent toxic waste sites which are estimated to cover 3,2 acres. | Included in summary above. |

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| 000000351-9 | Debra L Highsmith | Private Citizen | Its unforgivable to the public interest, health and welfare, that the exclusion of the most egregious, dangerous, and notorious by-products of phosphate mining are ignored: Fertilizer plants, gypsum stacks and the beneficiation process. These should be included in the final EIS. | Included in summary above. |
| 000000368-3 | Kevin P Wayne | Private Citizen | It should be recognized if mining is associated with fertilizer production. The latter then making it important to recognize gypstacks and their spills in the Draft Areawide Environmental Impact Statement for phosphate mining. | Included in summary above. |
| 000000371-65 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Economic Impacts The AEIS evaluates three classes of economic impacts: I. Direct 2. Indirect 3. Induced Why doesn't it evaluate the same suite of criteria under environmental? It would make sense to look at processing (chemical) and phosphogypsum stack closures under the same criteria (indirect/induced). | Included in summary above. |
| 000000371-66 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Since the economic analyses looks at areas outside of the direct mining (404 permitting), it seems only consistent that the AEIS should also look at the impacts of chemical processing and phosphogypsum stacks. | Included in summary response above. |
| 000000371-76 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS states: "The Florida Department of Environmental Protection (FDEP) maintains a Phosphogypsum Management Program that regulates (permitting, compliance, enforcement) the design, construction, operation and maintenance of phosphogypsum stack systems. It ensures the proper closure and long-term monitoring and maintenance of those systems which have concluded useful production, or which are otherwise required by rule to be closed. The program also administers financial responsibility requirements designed to guarantee that owners/operators have the financial ability to properly close and manage the stacks." Since in practice this hasn't been the case, the AEIS should list the impacts seen to date, and address how these will be mitigated in the future. | Included in summary response above. |
| 000000371-77 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Again, why are phosphogypsum stacks under "Non Significant Impacts"?, since stack decommissioning impacts both water quality (biological) and water supply for the years it takes to complete under seasonally low flow conditions. | Included in summary above. |

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| 000000542-123 | Percy Angelo | Private Citizen | A fishing website contains the following description of the effects of the 1997 Alafia spill http://www.wmi.org/bassfish/bassboard/places to fish/message.html?message id=231825: On 12-7-97 one of the phosphate companies spilled 50,000 gallons of acid which ran into the Alafia River (that runs into Tampa Bay). I have fished that river for over twenty years ( I live across the street from it). The spill killed everything in the river. It was so bad that the microscopic worms that live under the bottom died,. There was absolutely no life of any kind left in the river. I have been catching bass ( to 10 lbs), Snook (to 20 lbs), Redfish (to 10 lbs) and all sorts of freshwater panfish in that river for years. NO MORE !!! THEY KILLED IT GRAVEYARD DEAD !!! Some saltwater fish have started to move back in, but it'll be ten years before the river is close to what it used to be (that is if there's not another spill between now and then). The company that had the spill still hasn't been fined ! They are arguing with the State as to how many fish died. (Our government at work ! ). In 2010 fishermen were allowed to sue Mosaic, then Cargill, for this same spill. The Florida Supreme Court said the company had a duty to protect the interests of commercial fishermen in the river, holding that Mosaics business involved the storage of pollutants and hazardous contaminants and It was foreseeable that, were these materials released into the public waters, they would cause damage to marine and plant life as well as to human activity.' See Ex. 28. | Included in summary response above. |
| 000000542-124 | Percy Angelo | Private Citizen | The DAEIS pretends that CSA spills need not be considered, because, after several spills and two iterations of design improvements (there was another spill after the first), the industry may have finally designed better CSAs. 3-153-154. But it is clear that CSA spills are an industry problem, and have devastating consequences when they occur, no matter how frequently or infrequently. This is the reason that USEPA and international organizations study them, no matter where they occur or what kind of dam is involved, to try to prevent another. See Ex. 25. The problem is the failure of the impoundment, not what is inside it or what is spilled. For the same reason, failing to consider gypstack spills by defining gypstacks out of the study is simply irresponsible. Gypstacks spill, a lot. In fact the Supreme Court says that gypstack | Included in summary response above. |

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| | | | problems are foreseeable. The failure of the DAEIS to acknowledge these issues and problems is breathtaking, and highly improper. The fisherman says THEY KILLED IT GRAVEYARD DEAD!!!' The DAEIS must take notice. | |
| 000000542-129 | Percy Angelo | Private Citizen | The commenting groups have supplied the Corps with extensive material on gypstack issues in connection with the South Fort Meade extension permit. See e.g. November 13, 2009 letter and Exs. A. H, I, J, K, and March 19, 20010 letter and Exs. H, K, L, both in Angelo letter April 19, 2011. This material makes clear that gypstacks dwarf the actual mined product in volume, that they present an insoluble permanent disposal problem, that they are considered hazardous substances due to radioactive and other substances, that the fertilizer plants which produce them have serious USEPA permit and violation problems (providing another point of Federal agency action), and that it is clear that the financial assurances required by the state are nowhere near sufficient to deal with the potential costs of gypstack closure or response to spill incidents. | Included in summary response above. |
| 000000542-132 | Percy Angelo | Private Citizen | In addition to the obvious point that gypstacks from phosphate processing are considered hazardous by USEPA because of their radioactivity, health studies done within phosphate processing plants, and even within the central Florida phosphate area, have shown increased lung cancer risks. These studies have been provided to the Corps in our letter dated April 20, 2011, at p. 17 and Ex. J. At the request of the Florida Governor, USEPA issued recommendations in connection with Florida phosphate lands, calling specifically for precautions in light of the increased radioactivity and lung cancer risk in particular. 44 FR 38664 (July 2, 1979). Ex. 31. See also 41 FR 26066 (June 24, 1976), Ex. 32. The Florida Department of Health publishes maps identifying areas of increased radon risk. These frequently coincide with formerly mined lands. Polk County, for example, is covered with them. Ex. 33. Past EIS studies of phosphate mines have included radiation, as the DAEIS acknowledges. See 1-27 to 1-28. The DAEIS recognizes that urban development has occurred on former mined phosphate lands and is expected to continue in the future. 4-182. Current residents, and those that might be affected in the future, deserve an analysis of the radiation issue. USEPAs recommendation specifically mentions that | Included in summary response above. |

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| | | | future residential development on phosphate lands is likely to result in a public health hazard unless appropriate land reclamation and preparation, as well as home siting and design requirements, are imposed.' 44 FR 38665. The use of clean fill is specifically mentioned. Id. The DAEIS must recognize this issue and address possible mitigation and remediation measures, such as required use of layers of clean fill on top of problematic areas. This goes beyond current mining reclamation practice in which permits dont address radiation risks and even allow exceptions to topsoil requirements when it is not feasible. The industry in the past has advanced numerous arguments that there is some kind of debate among the authorities about the standard which should be applied to radiation, state or federal. That argument is repeated in the AEIS, 3-152 to 153, but it is simply wrong. The industry and the Corps well know that under CERCLA the standard is applicable or relevant and appropriate' requirement (ARAR), which means the federal or state standard, whichever is more stringent. They also know that the USEPAs standard is 4 picocuries per liter of air (pCi/L), which may be frequently exceeded by phosphate mined lands. They further know that, despite its soothing assurances about comparisons to the radiation we get from xrays or plane flights, the Department of Energy enforces a standard called ALARA, As Low As Reasonably Achievable, because there is no lower level safe' limit for radioactivity. As a federal agency the Corps may not ignore the federal standards for radiation. USEPA aerial surveys of phosphate lands, in particular the former Coronet Industries site, have shown radiation levels from 20 to 40 picocuries per gram of soil. By comparison, natural soils in the region have less than 2 picocuries per gram. Ex. 34. The Environmental Groups are aware that this issue has become highly political, with politicians seeking to bar the USEPA from further aerial surveys of phosphate lands to identify radiation issues, citing the negative impact on tourism, development and the phosphate industry. See e.g. Ex. 35. It is clear, however, that political sensitivity does not change NEPA requirements and that aerial surveys are in fact well-correlated with ground measurements. Id. | |

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| 000000542-132 | Percy Angelo | Private Citizen | Despite a great deal of evidence that radiation is a known phosphate health risk, at the former mines, the CSAs, the beneficiation plants, the chemical plants and gypstacks, the DAEIS unaccountably fails to even discuss the issue of radioactivity as an impact. This is manifestly improper and a violation of NEPA and its regulations. Beyond that, the unwillingness of the Corps to address a clear public health risk is irresponsible. | Included in summary response above. |
| 000000542-136 | Percy Angelo | Private Citizen | The DAEIS discussion of the value of mining includes severance taxes. Those taxes were supposed to go to a fund for reclamation of pre 1975 mined lands. Instead they had to be used by the state to respond to the disastrous gypstack spill at Piney Point, an issue which is not yet resolved. It is entirely improper to consider these severance taxes as a benefit of mining. Rather they constitute a cost to the public for the damages due to mining. Similarly, our previous submissions have provided an analysis of serious shortfalls in the bonding provided for gypstack closure. As revealed at Piney Point, where industry funds fall short the public must pay the bills. These costs are also ignored by the DAEIS. | Included in summary response above. |
| 000000542-198 | Percy Angelo | Private Citizen | The water quality discussion also fails to consider the impact of spills on water quality. Ex. 24, Florida Institute of Phosphate Research (FIPR), Phosphate Primer, Water Quality, Chemical Processing of Phosphate, Radioactivity and Phosphatic Clay Ponds, Process Water, Phosphogypsum Stacks, Phosphate Beneficiation, Air Quality, Clay Settling Ponds, Other Phosphate Deposits.. Ex. 25, USEPA Office of Solid Waste, Human Health and Environmental Damages from Mining and Mineral Processing Wastes, http://www.epa.gov/osw/nonhaz/industrial/specialmining/minedock/damage/damage.pdf. December 1995 (excerpts provided); Chronology of major tailings dam failures, WISE Uranium Project, versions updated September 3, 2009 and November 16, 2006. These studies view gypstack dam failures, CSA failures, and failures of other mining impoundments as relevant for common study and review. They are dam/berm failures, no matter what is contained inside and spilled. Ex. 26, Christopher Curry, Phosphate facility in White Springs remains closed after flood during Debby, The Gainesville Sun, July 6, 2012. Ex. 27, Josh Salman, Environmental officials reduced HRKs mortgage note at Piney Point, Bradenton Herals, July 24, | Included in summary response above. |

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| | | | 2011; Josh Salman, HRK never installed common dirt protective cover at Piney Point, Bradenton Herald, July 11, 2012; Tom Tryon: For Piney Point Horror Show, one sequel is enough, Herald-Tribune, June 12, 2011; Glenn Compton, DEPs errors at Piney Point, Herald-Tribune, June 10, 2011; Halle Stockton, Port defends dumping slurry into pools of radioactive waste, Herald-Tribune, June 3, 2011. Ex. 28, Court: Fishermen can sue over Hillsborough Bay pollution, Tampa Bay Online, June 17, 2010. | |
| 000000550-28 | POW & LBC, James Cooper | Environmental Organization | CFPD Gyp Stack Toxic Waste Issues - Years after mining ceased WHICH HAVE BEEN OMITTED in this DAEIS? MOSIAC: April 26, 212, FDEP approved a modification to the P-21 Wetland Site, an inactive gypsum disposal area near the abandoned Noralyn Phosphia Mine in CFPD - Polk County, FL. The modification was mandated, due to groundwater contamination discovered at the P-21 wetland area associated with toxic gypsum disposal. The modification resulted in permanent removal (severing) of 9.1 Wetland acres from the waters of the State. Mosaic agreed to mitigation on a 2-1 basis and provided a minimum of 18 acres of Conservation Easement on Wetland acres connected to the Alfia River Basin. The closure activities of the Green Bay Chemicals Complex include the P-21 wetlands. All ongoing closure activities at the site remain the responsibility of Mosaic. CFI: August 1, 21, CFI agreed to spend $12 Million to settle a Federal Complaint of improper waste handling at a Chemical Gypsum Plant in Plant City, FL. The EPA & FDP found between Dec. 24 & Jan. 25 improper waste handling created a $7, civil penalty & they had to post a $163.5 Million Bond. POINT: These 2 recent incidents cited above are proof positive that GYPSTACK TOXIC Waste Issues survive far longer than the plants operational lifespan. RECOMMENDATION FOR New Revised: Supplemental CFPD DAEIS: -All Gypstack Sites currently located in the CFPD and not Closed & accepted by the Feds should be circled in RED with a 1 mile buffer and noted at possible future Toxic waste sites. -Any new proposed Fertilizer Chemical Plants for any of the 6 future Phosphate Mines in the CFPD also need to post extremely large BONDS and be subject to stringent monitoring. | Included in summary above. |

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| 000000553-12 | Percy Angelo | Private Citizen | The DAEIS states that the industry will produce 32 million tons of phosphogypsum per year as a waste from its fertilizer production. DAEIS 4-167 to 169, Section 4.11.12. This means the gypstack issue is going to get much worse over the years of mining operation; yet the DAEIS declines to address gypstacks, ostensibly because they are regulated by FDEP. Previously the Corps had argued that gypstacks should be excluded because they were part of a different process than mining.The Mosaic President and Chief Executive Officer has identified scale, geographic location and vertical integration as the elements which combine to make Mosaic one of the lowest cost producers. See Exhibit E to Environmental Groups April 20, 2011 Scoping Comments. Vertical integration means gypstacks, essential to the Mosaic business model. | Included in summary response above. |
| 000000553-13 | Percy Angelo | Private Citizen | The Environmental Groups comments provided additional evidence, in addition to the evidence during the scoping process, that gypstack problems are pervasive and continuing. Clearly they are not being regulated adequately by FDEP, nor is regulation by another agency a reason for NEPA exclusion in any event. | Included in summary response above. |
| 000000553-14 | Percy Angelo | Private Citizen | It is hard to believe that even the Corps thinks the gypstack exclusion passes the straight face test. Again, this does not make business or regulatory sense any more than it makes sense under NEPA. | Included in summary above. |
| **Individual Comments** | | | | |
| 000000024-5 | Mosaic Fertilizer LLC , Monica Schulz | Company | I have been involved with phosphates for 31 years. I know the process and the people. In my job we ensure that employees abide by very strict compliance standards even beyond the International Standards Organization 14. Companies train employees on environmental and safety compliance before they can start to work, they also test employees on a regular basis, provide regular refresher training, conduct extensive audits and process reviews to obtain compliance and make sure the environment is not affected in any negative manner. If for some reason any employee or contractor decides to violate an environmental rule, he or she will be held accountable for it. There are no exceptions to the compliance rules and regulations. This ensures that we comply at all time as well as the sustainability of our Florida economy and its people. We all need to eat, population grows each second on | Comment acknowledged. |

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| | | | a worldwide basis. The solution is to use fertilizers that are good quality and produce good yield and do it in an environmentally friendly manner: this is what companies like Mosaic do, we feed the world without causing any damage. | |
| 000000275-1 | Helen King | Private Citizen | This AEIS, which will determine how mining will occur for over 120,000 acres over the next 50+ years, appears to have been written,studied, and compiled hastily. It is essential that all NEPA rules are followed to their fullest extent, and that the best avoidance techniques are used for the ARNI waters. | The AEIS was reviewed in accordance with all applicable federal regulations, including those for NEPA. Chapter 5 describes the requirements for onsite avoidance and minimization, and describes a proposed mitigation framework to be applied to the proposed mines. |
| 000000369-36 | Manatee County, FL, Ed Hunzeker | County Government | Final Comments: Due to the substantial deficiencies, along with not providing references in a timely manner, (according to Section 1502.21 CEQ Regulations), in the draft AEIS, Manatee County requests an interim draft AEIS or an addendum to the draft AEIS be produced prior to the final AEIS according to Section 1502.9 CEQ Regulations. We also recommend a group consultation with USACE, affected Counties and NEP to review onsite and offsite alternatives and recommendations for mitigation prior to the release of the Final AEIS. | References were included in the Draft AEIS and updated as appropriate for the Final AEIS. It is recognized that the variable quality and quantity of ore within the CFPD may be high. However, prospecting data for most of the offsite alternatives have been made available and were used to update the screening process in the AEIS. Additional documentation and discussion have been provided in Chapter 2 of the AEIS to expand on the basis for rejecting alternative means for transport of phosphate rock. NEPA requires the evaluation of at least one alternative, other than No Action, to the proposed actions. The offsite alternatives analysis for the Final AEIS has been updated and the screening analysis redone based on comments to the Draft AEIS and additional information provided by stakeholders. Alternatives CC-2 and FF were eliminated as a result of the updates to the alternatives screening in the Final AEIS. The material incorporated by reference was available for inspection within the time frame allowed for comment. The USACE determined that there was no need for a supplement to the Draft AEIS, or for a group consultation with the parties described. |
| 000000387-11 | Mary Olsson | Private Citizen | I would like to make an appeal to object to this proposal and request a hearing be scheduled to address issues of safety and environmental concerns before relying on the present data. | The USACE has acknowledged this request for a public hearing, and will notify the requester of the final determination whether or not a public hearing will be held. |

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| **No Further Response Required** | | | | |
| 000000017-8 | Kristi Patel | Private Citizen | "Severance"-coming out of kingdom resources" Tax"-Monies into general revenues"I personally had both Steve Sussix and Deborah Oates...both historically sitting in decision making capacity on board of FIPR as Industry Representatives, which historically functioned autocratically by design with no accountability...quote to me...that "THESE ARE INDUSTRY MONIES AND SHOULD BE USED FOR INDUSTRY". The composition of the Board ie: Five-Member ...Two industry representatives...one environmental/conservation....one regulator ...and one Academic(which historically was engineering/ never public health)...was potentially intrinsically set up for potential bias. | Comment acknowledged. |
| 000000273-3 | Diane Desenberg | Private Citizen | The less the environmental oversight and regulation, the greater the financial bonanza. And what a financial bonanza it must be. Here is some general data from Mosaic. Mosaic Net Profit 2011: $2.51 billion 2010: $ .83 billion 2009: $2.35 billion Who Owns The Environmental Risk? To minimize the environmental impact and avoid potential ecological disasters associated with phosphate mining, the phosphate companies must own the environmental risk. If a company can go bankrupt and avoid reclamation efforts, they do not own the risk. If a company can hire subsidiaries to do their dirty work (such as BP did at the time of the Gulf oil spill in 2010), then the parent company does not own the environmental risk. When it costs millions to prevent a wastewater breach, but a wastewater breach only results in a $270,000 penalty, the company does not own the environmental risk. If all of the stakeholders of Mosaic lived within five miles of one of their mines, they might own the environmental risk. But this is not the case. Mosaic's CEO brought home $7.7 million in pay in 2011 and he lives in Minnesota, no where near these Florida facilities. Requiring financial assurance is a big step in the right direction. But consider agency capture. If the Army Corps of Engineers signs off saying that the environmental impact is not so bad, then they will not require much in the way of assurance. In order for a company to own the environmental risk, the incentives must be very large and very real. Consider the difference in a company's financial calculations, if a permit to mine a new area were based on the environmental reclamation of the area currently being mined. If there were | Comment acknowledged. |

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| | | | insufficient reclamation, no new mining would be permitted. Or, what if all profit had to be reinvested in a mining facility, until the facility had been returned to an appropriate environmental state. Only after reclamation would a company be allowed to realize a net profit. I don't know the best, most-enforceable approach. But, I don't see much hope in the environmental impact review process, unless mining companies own the final results. And in the current environment, they do not. From the Sarasota Herald Tribune, "The study managed by the U.S. Army Corps of Engineers concludes that the environmental damage from strip mining more than 55,000 additional acres, including 12,000 acres of wetlands and 86 miles of streams, will be insignificant." Let's go with that. If a year from the onset of mining (or perhaps a month), the damage is insignificant, let the phosphate companies keep on mining and keep their profits. If not, they should be required to fix the damage, until it really is insignificant. Only then would they be allowed to continue mining and profit from their enterprise. Here's the bottom line. If a company wants to mine for phosphate, they must own the environmental review and its consequences or lose their permit to mine. Reassess frequently. In such a context, it would behoove a company to eschew the fantasy of insignificant phosphate mining damage in favor of a realistic impact assessment and mitigation plan. | |
| 000000359-3 | Florida Department of Agriculture and Consumer Services, Adam Putnam | State Agency | The nations agriculture industry depends on domestic sources of phosphate from Florida and, by extension, so does the nations food supply. I encourage you to complete the environmental assessment as expeditiously and objectively as possible. | Comment acknowledged. |
| 000000368-5 | Kevin P Wayne | Private Citizen | If further studies are necessary before publication of a proper (AEIS), then they should be done. The delay of publication is easily forgiven to trade for accuracy in information. Additionally, a two-part report would be more acceptable than a report which does not include important information to the people. | Comment acknowledged. |

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| 000000369-9 | Manatee County, FL, Ed Hunzeker | County Government | 5. Section 2.2.4.8, Page 2-64, Table 2-15: Regulatory setback requirements for Manatee County are incorrectly referenced. Setbacks for phosphate mining extraction activities, clay settling areas and beneficiation facilities, stockpiles, and related activities and structures are specified in the Manatee County Phosphate Mining Code | This has been corrected in the Final AEIS. |
| 000000369-20 | Manatee County, FL, Ed Hunzeker | County Government | 9. Section 3.3.7.7, Page 3-148, Lines 22-35 and Page 3-148, Lines 1-9: There is no exception for mining operations in the Manatee County Noise Ordinance, 08-12, as amended. | This has been corrected in the Final AEIS. |
| 000000375-1 | Adam H Putnam | State Agency | As the agencies review comments submitted and work to finalize the AEIS, sound science must prevail over political pressure. Any changes made to the findings or the conclusions of the study must be rooted in sound science, based on proven and relevant scientific studies offered through the comment process. The nation's agriculture industry depends on domestic sources of phosphate from Florida and, by extension, so does the nation's food supply. I encourage you to complete the environmental assessment as expeditiously and objectively as possible. | Comment acknowledged. |
| 000000379-5 | The Fertilizer Institute, William C Herz | Non-profit Organization | The Corps has established and kept to a schedule for the AEIS. This efficient use of the National Environmental Policy Act process is commendable. We urge the Corps to adopt an equally efficient and effective process to complete its review of the pending phosphate permit applications, and issue the permits promptly after completion of the AEIS. | Comment acknowledged. |
| 000000392-3 | The Sulfur Institute, Harold H Weber | Non-profit Organization | The Corps has set and is maintaining its schedule for this AEIS. We urge the Corps to efficiently and effectively process the pending permit applications for phosphate mining in Florida that will be supported by this AEIS. | Comment acknowledged. |
| 000000397-1 | US Environmental Protection Agency, William L Cox | Federal Agency | EPA previously received your letter (dated September 14, 2010) offering our agency, as well as the Florida Department of Environmental Protection (FDEP), an opportunity to become a "Cooperating Agency" to the USACE in the development of this AEIS for phosphate mining in the CFPD. Your request letter stated that this AEIS was intended to satisfy the requirements of the National Environmental Policy Act (NEPA) (Title 40 of the Code of Federal Regulations, part 1501.6), NEPA (42 U.S.C. 432 1 et seq.), Council for Environmental Quality (CEQ) Regulations (40 C.F.R. Parts | Comment acknowledged. |

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| | | | 1500-1508), and the NEPA Implementation Procedures for the Regulatory Program (Appendix B to 33 C.F.R. Part 325). You also noted that the AEIS was proposed to fully consider a range of environmental, and socio-economic issues, with the USACE's responsibilities as the lead Federal agency for this AEIS defined in 40 CFR 1501.5, and EPA's responsibilities as Cooperating Agency outlined in 40 CFR 1501.6. EPA understands that this AEIS serves dual purposes, both as a Regulatory EIS for the four specific mine applications, as well as a holistic areawide mining environmental impact study. EPA accepted the USACE offer to serve as a Cooperating Agency in our letter sent to you on October 14, 2010, and we note that FDEP accepted on January 25, 2011. EPA also notes that over 20 municipal and county governments in the region have since agreed to become Participating Agencies to the USACE on the AEIS. | |
| 000000397-2 | US Environmental Protection Agency, William L Cox | Federal Agency | EPA supports the development of an AEIS for the CFPD, with a goal of bringing together local, state, federal, and industry partners involved in phosphate mining in the Bone Valley and developing a comprehensive EIS that fully analyzes the secondary and cumulative impacts of phosphate mining. EPA therefore concurred with the USACE retaining an EIS contractor (utilizing the 3rd Party NEPA process) to develop this AEIS, and we appreciate the USACE making development of this important AEIS a high priority. We worked with USACE on an aggressive schedule that yielded a comprehensive DAEIS in less than 18 months from the date of the publication of the Notice of Intent (NOI) in the Federal Register on February 18, 2011. The DAEIS appropriately evaluates the existing environmental conditions and potential future multi¬media impacts associated with phosphate mining, and we have therefore involved a number of programs within our region and at EPA Headquarters to assist in this on-going process. | Comment acknowledged. |

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| 000000397-3 | US Environmental Protection Agency, William L Cox | Federal Agency | 1. DAEIS Cooperating and Participating Agencies EPA notes that one of the primary goals of NEPA is to encourage meaningful public input and multi-agency involvement in the process of evaluating the environmental impacts of proposed federal actions, in this case the consideration of issuance of Department of the Army permits under Section 404 of the Clean Water Act (CWA). To this end, the President's Council on Environmental Quality (CEQ), which oversees NEPA nationally, has developed regulations that require agencies to make diligent efforts to involve the public and local, state, and other federal agencies in the NEPA process. The CEQ regulations call for agencies to actively identify parties that might be interested in a proposed federal action, and to give notice to the public through a variety of media such as the Federal Register, local newspapers, or direct mailing. EPA Recommendation: The USACE has actively identified parties that might be interested in a proposed federal action, and we commend the USACE for utilizing both Cooperating and Participating Agencies in the development of this AEIS. EPA recommends that the USACE continue working closely with both the Cooperating and Participating Agencies in completing the NEPA process. | Comment acknowledged. The USACE has continued to work closely with the cooperating and participating agencies. |
| 000000397-5 | US Environmental Protection Agency, William L Cox | Federal Agency | EPA notes that, in accordance with Title 40, Code of Federal Regulations (40 CFR), Part 1501.7, the USACE complied with the requirement for an early and open NEPA process for determining the scope of issues to be addressed and for identifying significant issues related to the proposed action. As mentioned previously, the Notice of Intent (NOI) for the AEIS was published in the Federal Register on February 18, 2011. The formal scoping period ran from February 18, 2011 through April 30, 2011, and two public scoping meetings were held with a combined total of over 1000 persons in attendance: one on March 23, 2011, at The Lakeland Center in Lakeland, Florida, and one on March 25, 2011, at the Charlotte Harbor Event Center in Punta Gorda, Florida. The Cooperating Agencies, EPA and FDEP, both provided staff that spoke at these meetings along with USACE and 3rd Party Contractor speakers. The USACE received more than 5,000 comments contained in approximately 3,000 submissions from agencies, other stakeholder groups, and individual members of the public during the scoping period. EPA | Comment acknowledged. A responsiveness summary has been included in the Final AEIS. |

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| | | | reviewed many of these comments, and noted that they covered a wide range of topics. EPA notes that the USACE has received comments on the DAEIS that cover many of the same topics addressed during scoping. Among the most frequently mentioned are issues pertaining to the potential loss of wetlands and required mitigation, effects of phosphate mining on groundwater quality and levels (particularly the effects on the Floridan aquifer), adverse impacts to the Peace and Myakka Rivers and their tributaries, and maintaining and improving surface water quality in the Charlotte Harbor estuary. Also, many comments have been received concerning jobs and the regional economic importance of phosphate mining. EPA Recommendation: The DAEIS notes that the USACE plans to respond to written comments received from the public during finalization of the FAEIS, which currently is projected to occur during the fall of 2012. EPA concurs, and we recommend that the FAEIS include a detailed "responsiveness summary" that presents and addresses all of the public and agency comments that have been submitted. | |
| 000000397-9 | US Environmental Protection Agency, William L Cox | Federal Agency | 6. DAEIS Analysis of Wetlands and Mitigation EPA notes that, in accordance with NEPA, the DAEIS appropriately evaluated direct and secondary impacts on wetlands systems and considered employment of buffers, setbacks, and greenways at perennial and intermittent streams. The DAEIS appropriately included a number of detailed summary tables of a range of ecological impacts that were identified for each alternative during the study. These include: Table ES-2, "Summary of Wetland and Stream Impacts of the Applicants' Proposed Alternatives" Table ES-3, "Wetland Land Uses at Alternatives 6, 7, and 8" Table ES-4, "Wetland Land Uses For Other Offsite Alternatives" Table ES-5, "Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet around Priority 1 and 2 Areas" Table ES-6, "Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet from Perennial Streams" Table ES-7, " Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet from Perennial and Intermittent Streams" Table ES-8, "Effects of Setback to Avoid Peace River "Greenway" System" Table ES-9, "Effects of Conceptual Buffers of 1,500, 3,000, and 6,000 Feet around High Value Wetlands Identified in the Applications" Table ES-10, "Effects of Conceptual Buffers from All Perennial Streams Identified in the Applications" Table ES- | Comment acknowledged. The USACE has worked with the USEPA. The FDEP, the USFWS, and the NMFS in a revision of the Draft AEIS to develop a conceptual mitigation framework described in Chapter 5 of the Final AEIS. |

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| | | | 11, "Effects of Conceptual Buffers from All Perennial and Intermittent Streams Identified in the Applications" Because of their cumulatively high degree of ecological function performed, including endangered and sensitive species habitat, groundwater recharge, water quantity provided to agricultural and municipal users, and water quality benefits to the downstream waters (including the Charlotte Harbor estuary), EPA considers many of the wetlands located in the proposed mining sites to be Aquatic Resources of National Importance (ARNI). Accordingly, this status as ARNI is indicated in the comment letter by EPA on the four USACE Public Notices that are the subject of this DAEIS that will be issued separately (by the Region 4 Wetlands, Coastal, & Oceans Branch) from this DAEIS comment letter. | |

## Alternative Development Process

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| **Summary Comments** | | | | |
| **ALT-1** | | | **Transport of matrix, trucks, and conveyers: Commenters suggested a single beneficiation plant could minimize transportation costs and water use.** | **Functional alternatives, including alternative transport methods, are discussed in Chapter 2 of the Final AEIS.** |
| 0000000199-9 | James Cooper | Private Citizen | And I'll take that one step further. The miners, somewhere in the document, they talk about they have to locate these phosphate fertilizer plants no further than 10 miles because 10 miles is the farthest distance they can pump the slurry, which means they take this phosphate, fertilizer far from the -- through water, through pipes up to fertilization plant where they strip it out and they create GYP stacks. Then why are we using all of that water and paying for our water for them to pump it out? Why don't they just put it in a truck and carry it out? Because it's cheaper. So what I 'm saying is, 10,000,000 gallons a day? That could probably be dropped down to 7,000,000 a day, if they truck it and not pump it. If they truck it, they would have to pay for it. They don't want to do that. So were subsidizing a commercial product and we are not getting a turn around investment. I'm not going to get into valued judgment here. And they've never explored an alternative because no one has ever asked them to. One of the alternatives ought to be, let them go get one of these beneficiation plants for the whole area, one of these fertilization plants. I 'm not sure what the benefit is, its a benefit to them and not to us for sure. They should have one or two of them and just truck it away and they wouldn't have to build these new ones at all. Look at all the money they would save, and all the water we would save. Just a simple thought, okay? Plus you wouldn't have as much of radioactive toxic waste. | The water demand is not primarily for the transportation of water; the water is consumed (lost) in processing ore product or in evapotranspiration (ET). Water is stored onsite to facilitate the settling of solids and to mitigate offsite impacts to adjacent surficial groundwater. These processes and ET losses would occur whether the slurry is transported hydraulically or by an alternative means. |
| 0000000275-6 | Helen King | Private Citizen | Finally, transportation of the matrix should have other alternatives, such as transportation by truck or rail instead of the wasteful slurry method, utilizing massive amounts of water. | Transportation options for phosphate rock as alternatives to transport by way of a pipeline slurry to include trucks, rail, and conveyors. These options were found not to be reasonable as result of cost, reliability, and environmental issues. The discussion of these alternatives is provided in more detail in Section 2.2.6 of the Final AEIS. |
| 0000000542-75 | Percy Angelo | Private Citizen | The enormous amounts of water which Mosaic and CF are allowed to pump for free, primarily just to transport their material as cheaply as possible (see discussion of alternatives below) are an invaluable gift to the miners, which would be | Included in summary response above. |

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| | | | of great value to other users. The incredible value of this free gift is demonstrated by the fact that Mosaic plans to build a pipeline across almost two counties to get this free water to the Desoto mine. This lost opportunity to other economic uses, a resource opportunity cost, is a very substantial cost of mining and should be acknowledged by the DAEIS. Water use for mining is incredibly wasteful. Most of it is used to slurry the matrix so it can be pumped to the beneficiation plant and then to slurry the sand and clay back to the mine for reclamation. Water is simply a free transportation medium. As discussed below, we know that other mines in Utah and Idaho use trucks and other dry methods to transport matrix. We also know that prior EIS documents have considered alternative means of transport. See 1¬ 27 to 1-28. We further know that Morocco uses a conveyor belt to transport its mined material. Ex.11. Clearly those dry transport alternatives should have been discussed in the DAEIS. | |
| 0000000542-152 | Percy Angelo | Private Citizen | The DAEIS failed to consider transportation methods which would reduce the extraordinary water use of the phosphate mines-Phosphate mining as practiced in Florida uses monstrous amounts of water. Mosaic has an overall permit for almost 70 MGD. Total usage is 85 MGD. While the DAEIS claims that these full amounts wouldn't necessarily be used except in drought years, in fact drought years are the very years when everyone else and the environment needs the water as well. Florida phosphate mining uses so much water because the water is used as a transport medium to slurry the phosphate to the beneficiation plant and then to slurry the sand and clay back to the mine cuts. This is a very wasteful use of water. An important state resource is being provided, free, to the phosphate companies so that they don't have to pay for transportation. The AEIS comments that if phosphate mining were to phase out there would be great demand for the phosphate water allocation. This is an amazing admission. Everyone else needs that water too. This wasteful use of water is not an inevitable result of phosphate mining. The USGS Yearbook, at 56.2, Ex. 29, notes that in Idaho and Utah, phosphate rock was sent from the mine to the processing facility via truck, rail, and slurry pipelines.' (emphasis supplied.) In an Australian mine beneficiation is by dry screening and then trucking for further processing. | Included in summary response above. |

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| | | | Yearbook at 56.3, Ex. 29. Morocco transports its phosphate by conveyor belt. Phosphate: Morocco's White Gold', Bloomberg Business week, November 4, 2010, www.businessweek.com/print/magazine/content/1046/b4203080895976.htm. The DAEIS itself points out that other EIS documents in the past have discussed transportation alternatives. 1-27 to 1-28. Clearly transportation methods which reduce the extraordinary and extraordinarily damaging phosphate water use are available. Failure to consider them is a violation of NEPA. | |
| **ALT-2** | | | **Importation of rock from Morocco or other locations: Multiple commenters indicated that the alternatives should be expanded to include the importation of rock from other countries and processing at existing facilities.** | **Section 2.2.6 has been expanded to more completely discuss how the import of rock from other countries as an alternative would not meet the project purpose.** |
| 0000000199-13 | James Cooper | Private Citizen | Another thing in the alternative section, in a letter that the EPA wrote to the Corps, in January of 2010, they stated that a no action alternative should also include importing some of the phosphate needed for domestic use rather than just taking it out of Florida. And the reason for that is that right now they're exporting more of the stuff that they've got - the matrix. More in their matrix is put in fertilizer and exported than is kept in the State of Florida. So if they could bring some of it in, they wouldn't have to mine so much, and they would take it over a longer period of time and it would reduce the impacts on the harbor. | Included in summary response above. |
| 0000000272-57 | Sarasota County, FL, Christine Robinson | County Government | In addition, the Draft AEIS should expand the alternatives to include as an alternative the processing of imported phosphate rock at existing permitted production facilities. An analysis of phosphate rock is found in the following documents: Phosphate Rock 2010 (Advanced Release). 56.1 Phosphate Rock by Stephen M. Jasinski; U.S. Geological Survey, 2012, Mineral commodity summaries 2012; U.S. Geological Survey, 198 p; U.S. Geological Survey, 2011. Mineral commodity summaries 2011: U.S. Geological Survey, 198 p.: U.S. Geological Survey, 2010, Mineral commodity summaries 2010: U.S. Geological Survey, 193 p. | Included in summary response above. |
| 0000000349-10 | Robert Fellman | Private Citizen | Doc Ref: AEIS. Section 1.2, Project Purpose and Need Issue: NEPA and the USAGE NEPA implementing regulations require consideration of a range of reasonable alternatives, including a No Action Alternative and the Applicants' preferred | Included in summary response above. |

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| | | | alternative. Inadequate presentation of an Importation Alternative. Comment: Please see attached comment # 10 on three sheets. | |
| 0000000349-27 | Robert Fellman | Private Citizen | AEIS. Section 1.2, Project Purpose and Need Synopsis: AEIS Must have an Phosphate Rock Importation Alternative By excluding an alternative that employs the Importation of phosphate rock from sources outside of the CFPD, the USACE is depriving the public of a basis of comparison displaying what a balanced economic impact will be if the wetlands, streams and agricultural lands of the proposed mines are left undisturbed but the phosphate rock and product and their associated economic advantages are accounted for. It is true that the No-Action Alternative also allows for these ecological resources to remain undisturbed, but as presented in Appendix F and stressed throughout the document, the mining alternatives allege economic advantages because of the value added from the phosphate rock and product. Thus it is reasonable to develop an alternative that accounts for the production while not proceeding with mining. In actuality, the AEIS has outlined exactly such an alternative. In Section 2.2.5.3 it states that: "The most reasonable approach to importation would be to bring the rock into the Port of Tampa by ship then transfer the rock to barges or trucks for transport to the processing facilities. Implementing this process would require the purchase of additional facilities and equipment at both the port and the processing facility." The text (Lines 10 through 30 not repeated here) then identifies the facilities and the operational requirements associated with implementation of this defined approach. It is clear that this alternative will directly and indirectly increase economic activity for parts of the study area. This may be shown by noting that in AEIS Chapter 1 in Section 1.2.1,2, "Historical and Current Economic Importance", Page 272, at lines 21 through 26, the AEIS states that: "(t)he movement of phosphate by port shippers and consignees such as Mosaic and CF industries creates more than 67,000 Jobs generating $4.3 B in personal income in the regional economy annually (Martin Associates, 2006)." Presumably, this is based on the present level of phosphate product shipment and handling. Similar or greater job-creation and economic advantages may arise if the approach outlined in | Included in summary response above. |

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| | | | the AEIS is followed. It may easily be argued that the level of port activity and number of jobs would increase under the outlined importation alternative. The AEIS (lines 15 through 21) further states that: "The USACE has determined that due to the increased expense of adding and maintaining a second supply system, it would not be reasonable for the applicant to both mine and import rock for processing simultaneously. Discontinuing mining operations and shifting solely to importation of rock does not meet the purpose and need. " The AEIS provides no analysis of the "increased expense", nor has any reference been provided. It is not prima-facie obvious that the Importation alternative presented in the AEIS is impractical. The whole question of why this is unreasonable is left unaddressed. Further, the AEIS states that the purpose and need for the project would not be met with an importation alternative. Yet that statement is altogether at variance with the argument presented in Section 1.2.1 “The Public's Need". One concludes from Section 1.2.1 that phosphate product is needed for US and global agricultural purposes and that Florida and counties enjoy tax and economic benefits. Table 1-4 summarizes the economic advantages. That the importation of phosphate rock would satisfy agricultural needs is self-evident. The development of the outlined alternative will also show a positive economic impact probably rivaling that shown in Table 1-4. Thus, the importation alternative needs to be analyzed and presented in detail. | |
| 0000000349-28 | Robert Fellman | Private Citizen | There is further discussion at Chapter 1 on Page 1-11, lines 14 through 18 which casts a dubious aspersion on the security of the phosphate supply. This discussion states: "(a)s noted previously, the U.S. no longer produces a surplus of phosphate and instead is increasingly reliant on imported phosphate to meet increasing demands for food supplies in the U.S. and elsewhere (Lifton, 2011). Additionally, while global supplies of phosphate are abundant, these supplies are concentrated in a relatively small part of the world. The political security of these supplies is lacking, with disruptions a common occurrence (Lifton, 2011)." As a simple note of scholarship, the Lifton reference does not appear in the reference section of the AEIS. Nevertheless, one is able to find the probable reference1. It is essentially an | Included in summary response above. |

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| | | | advertisement for Mr. Lifton's investment point of view. His promotional biography states that he: "is a leading authority on the sourcing and end use trends of rare and strategic metals. He is a founding principal of Technology Metals Research LLC and president of Jack Lifton LLC, consulting for institutional investors doing due diligence on metal- and material-related opportunities." Mr. Lifton's pessimism regarding Morocco's political stability however, is not universally shared. According to FOX News2 (February 2011) "The government (of Morocco ed. note) is also fundamentally stable due to the Moroccan political culture which has a unique aspect that most populous Arab countries cannot easily emulate. Morocco is governed by a monarchy with three centuries of continuous history in the country" The FOX News article further quotes the French Daily "Le Monde ", hailing voting as the "Moroccan Exception" to the Arab region. 1 http://www.resourceinvestor.com/2011/06/03/feeding-the-worlds-hunger-for-phosphorus 2 2 http://www.yacout.info/Fox-News-highlights-Morocco-s-political-stability_a2494,html Finally, three points: 1) Morocco is a member of the WTO and thereby enjoys "Most Favored Nation" trade status. 2) Morocco has approximately 70% of the world's phosphate reserves. 3) Mosaic has imported phosphate rock from Morocco (and Peru) and thus has established a precedent for importation. Therefore, for Morocco, the possessor of the world's greatest supply of phosphate rock, the issue of the security of supply is not valid. Moreover, the USGS4 has projected that an increase of 26% in world annual phosphate production capacity will be sustained by 2015. The increase, according to the USGS , "will be from a combination of new mines and expansion of existing operations (Australia, Brazil, Canada, Namibia, Peru and Morocco). In summary, an importation alternative will satisfy the "need" for the phosphate product and will provide a comparative economic benefit. Such an alternative identifies to the public exactly what It would mean to leave the affected environment undisturbed compared to the mining alternatives while satisfying the "Public Need". 3 U.S. Geological Survey, Mineral Commodity Summaries, Page 119, January 2012 4 U.S. Geological Survey, 2010 Yearbook, | |

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| | | | Phosphate Rock (Advance Release), Page 56.4 | |
| 0000000390-1 | Just the Facts | Non-profit Organization | 1. The no action and importation alternatives should be considered, not dismissed. | Included in summary response above. |
| 0000000542-148 | Percy Angelo | Private Citizen | S. The DAEIS Fails to Consider Several Very Viable Alternatives and Mitigation Opportunities. -The DAEIS improperly refuses to discuss importation of phosphate rock as an alternative-The DAEIS gives substantial space to the value of phosphate and its importance for the world market but refuses to consider any alternative other than the mining of phosphate from the CFPD. This is manifestly improper. The world is full of phosphate. Refusing to consider any other source is a transparent effort to serve the interests of the permit applicant-not to conduct a proper EIS. | Included in summary response above. |
| 0000000542-150 | Percy Angelo | Private Citizen | The pretense that import of phosphate rock is not an available alternative is further belied by the fact that it is happening, and happening right now. The 2011 USGS report states that in 2011 US imports of phosphate rock were estimated to have increased by nearly 1 million tons from those of 2010 because of imports of phosphate rock from Peru, where the leading U.S. phosphate fertilizer producer has a 35% stake in the only phosphate rock mine in that country.' The Peruvian phosphate was used in part when Mosaics South Fort Meade-Hardee County mine operations were halted by an injunction (for failure to prepare an EIS), but it is notable that Mosaic was able to use that imported material to keep operating, and make a nice profit. In fact three US fertilizer companies rely entirely on imported rock from Morocco. Id. Clearly operating with foreign phosphate is well within the contemplation of the phosphate companies. The refusal to consider this alternative is simply a reluctance to follow the mandates of NEPA. | Included in summary response above. |
| **ALT-3** | | | **Offsite alternatives: Sarasota County indicated their ordinances, in combination with the comprehensive plan and the zoning regulations, would preclude future mining in some areas. In particular it was noted that the areas zoned as open use mining (OUM), which would allow phosphate mining, do not exist within the CFPD and therefore relevant Alternatives L and K should be eliminated from further consideration in the Tier 2 screening process.** | **The Offsite Alternatives analysis has been completed for the Final AEIS and Polygons K and L have been eliminated from further consideration in Sarasota County. These changes are noted in Chapter 2 and Appendix B.** |

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| 0000000272-3 | Sarasota County, FL, Christine Robinson | County Government | Sarasota County has specific concerns about the Alternatives listed in Chapter 2 of the Draft AEIS because of its own ordinances governing mining | Included in summary response above. |
| 0000000272-23 | Sarasota County, FL, Christine Robinson | County Government | Alternatives 2.2.4.5, Sarasota County staff recommends the following language be inserted after the last paragraph on page 2-36: Sarasota County has specific ordinances that effectively preclude phosphate mining or related operations within areas of Sarasota County. The Sarasota County Comprehensive Plan (Sarasota County Comprehensive Plan), the Sarasota County Zoning Regulation, (Sarasota County Zoning Regulations), and Sarasota County Code Chapter 54, Article X [Mining] (Sarasota County Mining Ordinance) include several sections that are relevant to the potential use of land areas for phosphate mining activities. | Included in summary response above. |
| 0000000272-24 | Sarasota County, FL, Christine Robinson | County Government | Principle VI. B. 2.e) of the Guiding Principles for Evaluating Land Development Proposals in Native Habitat within Chapter 2 of the Sarasota County Comprehensive Plan (Sarasota County Comprehensive Plan) effectively prohibits mining in the Myakka River Watershed in Sarasota County. | Included in summary response above. |
| 0000000272-25 | Sarasota County, FL, Christine Robinson | County Government | Section 4.5.3 of the County's Zoning Regulations states the following: a. The OUM District provides for mining activities and associated uses. b. This district is used to implement the Comprehensive Plan within areas designated as Rural on the Future Land Use Map. It should not be applied outside the Rural area or in areas of special environmental significance, including, but not limited to, the watersheds of Cow Pen Slough, the Myakka River, and the Braden River. | Included in summary response above. |
| 0000000272-26 | Sarasota County, FL, Christine Robinson | County Government | Section 54-289(1)d. of Sarasota County Code of Ordinances (Sarasota County Mining Ordinance) states the following: No mining activities shall be undertaken on land unless it has been zoned OUM, Open Use Mining in accordance with the Sarasota County Zoning Ordinance (Appendix A to this Code. | Included in summary response above. |
| 0000000272-27 | Sarasota County, FL, Christine Robinson | County Government | No lands within the Sarasota County portion of the CFPD are zoned OUM. | Included in summary response above. |
| 0000000272-28 | Sarasota County, FL, Christine Robinson | County Government | Due to the above-described Sarasota County Ordinance requirements effectively precluding phosphate mining within the areas of the Myakka River Watershed that lie within the boundary of Sarasota County, and using the screening step | Included in summary response above. |

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| | | | described in Section 2.2.4.5, Step 3, staff requests that the following figures be revised to remove depiction of said areas as potential alternative mining areas. Sarasota County staff recommends that Figures 2-17 and 2-18 be revised to remove those portions of Alternative Polygon Areas L and K illustrated within Sarasota County. | |
| 0000000272-82 | Sarasota County, FL, Christine Robinson | County Government | Only reviewed effects of Manatee County's mining ordinance not Sarasota County's. | Included in summary response above. |
| **ALT-4** | | | **Offsite alternatives analysis: It appears that about 60-70% of the CFPD in the Myakka Watershed will be mined. Related to this comment, other commenters also stated a concern that, based upon the Tier 1 and Tier 2 analysis, the entire CFPD would be available for mining and that the potential of mining as proposed would include impacts to areas related to the Wild and Scenic Rivers and the Myakka state Park. Similarly, one commenter stated that two alternatives considered are in fact future Mosaic mines and that the assumption of the alternative analysis is that the entire CFPD is to be abandoned to mining.** | **Maps in the Draft AEIS showed a number of offsite alternatives in the CFPD and in the Myakka River watershed. These areas were not proposed mines; these were alternatives identified in accordance with the requirements of NEPA. The offsite alternatives analysis has been revised in the Final AEIS and is provided in Chapter 2 and Appendix B.** |
| 0000000281-12 | Sandra Ripberger | Private Citizen | The selection and analysis of numerous alternative parcels seems to be a pointless exercise. Are the actual proposed mine sites themselves evaluated using the same criteria: wetlands, hydric soils, Florida Forever, FEMA, 1000 yr. flood plain, Integrated Habitat Network? Consultant time would be better spent documenting the environmental features of the proposed sites and finding less damaging alternatives. | Included in summary response above. |
| 0000000385-4 | Jono Miller | Private Citizen | Even the naming of these alternatives is problematic and thwarts analysis. MY-1, MY-2. etc. would have instantly identified these as Myakka basin alternatives, but as it is there is no mnemonic device that allows one to quickly determine what basin each alternative relates to. | Included in summary response above. |
| 0000000542-19 | Percy Angelo | Private Citizen | Others are other CFPD properties which have been screened to eliminate urban areas and state parks. The alternatives essentially include everything within the CFPD that is not already mined or permitted for mining, urban or too small to mine. They assume that everything within the CFPD is open for mining; they appear to be a shopping list for the mining companies. | Included in summary response above. |

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| 0000000542-22 | Percy Angelo | Private Citizen | It is this area that includes the four proposed mines, the two future Mosaic mines alleged to be alternatives, and the area the document suggests are additional alternatives. Together these past, proposed and alternative mines take up almost all of the CFPD. | Included in summary response above. |
| **ALT-5** | | | **Commenters noted that planning documents and defined land use categories have proposed land uses other than mining, which should have been used to exclude specific areas during the alternative analysis.** | **Local planning and zoning requirements were considered as much as possible in the alternative screening process, understanding that they are subject to periodic revision. However, in each case mentioned by the commenter, the specific polygons of concern were eliminated in the revised alternative analysis for other reasons as described in Chapter 2 and Appendix B of the Final AEIS.** |
| 0000000369-17 | Manatee County, FL, Ed Hunzeker | County Government | The study illustrates the migration of potential mining activities to the west in areas the Comprehensive Plan calls for future suburban development. Development plans for these areas include residential, services, institutional uses such as schools, commercial and other development activities that are likely incompatible with mining activities. Alternative future mining areas in north central Manatee County are also adjacent to existing residential development, including the Foxbrook subdivision, which is an existing residential subdivision that is mostly developed. Other areas of potential mining activities that are in the south central-portion of the county may be in proximity to older platted subdivisions that contain hundreds of single-family homes on 1 acre and larger lots. These areas of the county are generally incompatible with mining activities. Therefore, Manatee County staff recommends that Figures 2-36 be revised to remove Alternative Polygon Areas CC-2, FF and X. | Included in summary response above. |
| 0000000385-2 | Jono Miller | Private Citizen | While I don't believe existing Manatee County constraints on mining in the Manatee reservoir watershed, the Evers (Braden) watershed, and Peace River watersheds are sufficient to provide optimal protection as a consequence of the existence of the Manatee County Mining Ordinance, I suspect that the use of potable water from these surface water sources will result in addition scrutiny regarding water quality impacts. The existence of the ordinance and some it provisions were apparently sufficient to eliminate five alternative sites (AA, BB, DD, EE and Z) from consideration as shown in Figure 2-18 on page 2-37. Page 2-36 Step 3 exists to | Included in summary response above. |

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| | | | identify legal ordinances that preclude mining or mining operations. This section identifies prohibitions related to potable water supply in Manatee County, but does not mention any of the extant mining prohibitions in Sarasota County, which would affect (and probably should eliminate) Alternative Sites L&K. | |
| **ALT-6** | **Onsite Alternatives and Buffers** | | **Commenters did not think the use of the large buffer areas evaluated in the draft AEIS was appropriate. A recommendation was made that buffers be set around important species and habitats such as wetlands and other important environmental features One comment also recommended that the benefits provided by buffer zones and conservation acquisitions be considered as mitigation measures. Comments also suggested continued development of the integrated habitat network and preservation of areas adjacent to the 25 year floodplain.** | **The proposed buffers have been reviewed and modified. A conceptual evaluation of an alternative approach to apply buffers, potentially as part of a mitigation framework has been provided in Chapter 5. It is acknowledged that the CLIP data when used in aggregate may not represent specific impact categories that should be considered for buffers in the on-site alternatives analysis. The Final AEIS has been updated in Chapter 5 to reflect the single layer for wetlands for the CLIP 1 and CLIP 2 data that could be used in those buffers.** |
| 0000000272-44 | Sarasota County, FL, Christine Robinson | County Government | To allow a more thorough comparative analysis of the 24 AEIS Alternatives, the DRAFT AEIS needs to be revised to apply the proposed geographical exclusions and buffers that could be applied over the currently proposed mines, future mines and the alternative polygons. | Included in summary response above. |
| 0000000351-6 | Debra L Highsmith | Private Citizen | The no action alternative means mining can occur the way mining has always been done, with no further protections necessary. (Refer to creating an enhanced project purpose for the final record.) The addition of 4 new mines, without additional environmental protections (like enhanced buffers) is sad. Why cant the addition of meaningful buffers be evaluated as preferred alternative? Its hard for members of the public to differentiate what constitutes new regulations with the ability to adopt meaningful alternatives, so after reading the DAEIS, perhaps a PEIS is the right answer. | Included in summary response above. |
| 0000000351-13 | Debra L Highsmith | Private Citizen | Onsite alternatives/buffers should be included in the alternatives. | Included in summary response above. |
| 0000000369-3 | Manatee County, FL, Ed Hunzeker | County Government | 1. Manatee County recognizes that phosphate is an essential ingredient in fertilizer and that the Central Florida Phosphate District (CFPD) contains the most extensive phosphate deposits in the United States. Manatee County also recognizes that unregulated mining can cause impacts on habitat, water quality and water quantity. However, the AEIS | Included in summary response above. |

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| | | | fails to provide practical alternatives that both preserve existing onsite natural resources and permit recovery of otherwise mineable phosphate reserves. Manatee County recommends that the AEIS contain a clear Environmentally Preferable Alternative that balances environmental values and functions with the phosphate mineral in order to address NEPA Section 101. As there was no recommended Environmentally Preferable Alternative provided in the Draft AEIS, Manatee County, as a commenting agency, recommends the following environmentally preferable alternatives be considered: a. Restrict mine extraction activities in the 25-year floodplain, perennial streams, or wetlands functionally integrated with the 25-year floodplain. (Manatee County Phosphate Mining Code, Ordinance No. 04-39 (codified as Chapter 2-20, Code of Laws, Manatee County, FL), restricts phosphate mining activities in these areas unless the applicant can demonstrate through competent and substantial evidence that mining activities will not result in adverse effects to water quality, water quantity or natural habitats therein. b. Restrict mine extraction activities in wetlands of moderate to optimal values as expressed by the uniform mitigation assessment method (UMAM). Without further documentation of wetland reclamation success, preserving "moderate to optimal" valued wetlands is a prudent measure to achieve NEPA 40 CFR Section 101(b)(3), "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unattended consequences." | |
| 000000369-6 | Manatee County, FL, Ed Hunzeker | County Government | 2. Section 2.2.3, Onsite Alternatives: Satisfactory consideration of mining operations onsite alternatives has not been given. Such onsite alternatives, for example: a) only mining one side of a riverine system at a time, orb) phasing land clearing with reclamation so that muck soils can be directly transferred to reclaimed wetlands, or c) rotating mine blocks to reduce the acres disconnected from a sub-basin as any given time, could minimize environmental impacts or other undesirable consequences. These practices are operationally possible and effective but require some additional planning. However, unless required to consider onsite alternatives in mining operations, the mining industry | Included in summary response above. |

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| | | | will continue status quo operations. | |
| 0000000379-2 | The Fertilizer Institute, William C Herz | Non-profit Organization | TFI urges the Corps to issue the permits applied for in the CFPD without additional costly restrictions that our competitors do not face. For example, the avoidance areas suggested in the draft as potential on-site mining alternatives would result in a devastating loss of reserves (in some cases encompassing the entirety of the mineable reserves on the property) and likely also a huge increase in regulatory costs to implement. Likewise, suggestions in the draft that the companies discard years of permitting efforts on properties they already own, on which the mineral reserves are well-established, in favor of alternatives owned by multiple people with unknown reserves is simply not smart or routine business practice and not reasonable. | Included in summary response above. |
| **ALT -7** | | | **Reclamation: Comments in this section related to the lack of consideration in the Draft AEIS of reclamation options that might be considered either as part of the alternatives or as part of mitigation program. There also were comments related to the timeframe for reclamation to be completed and the process for peer review as well as different types of reclamation that should be considered.** | **Reclamation is under the authority of the FDEP, not the USACE. The discussion of reclamation has been expanded in Chapter 5 of the Final AEIS.** |
| 0000000272-68 | Sarasota County, FL, Christine Robinson | County Government | No discussion regarding reclamation options was included in Alternatives by relegating the consideration of reclamation to several sections of the AEIS rather than as a single topic, the opportunity to compare the various Alternatives based on their various reclamation options is lost. | Included in summary response above. |
| 0000000272-81 | Sarasota County, FL, Christine Robinson | County Government | No consideration given to Functional Alternatives involving differing reclamation methods. | Included in summary response above. |
| **Individual Comments** | | | | |
| 0000000272-2 | Sarasota County, FL, Christine Robinson | County Government | Rather, the Board has expressed desires for reasonable alternatives or mitigation measures. | Offsite and functional alternatives are described in Chapter 2 of the Final AEIS. Mitigation alternatives, including a mitigation sequencing framework and the potential for buffers, are described in Chapter 5 of the Final AEIS. |

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| 0000000272-29 | Sarasota County, FL, Christine Robinson | County Government | The subsets of the Rail Network and Federal-Aid Highway System used to create Figure 2-10 under-identifies many state and local roadways and railroad corridors that would not reasonably be mineable and therefore does not provide for a complete or accurate alternative analysis screening. In association with DRAFT AEIS Alternatives analysis screening, please revise Figure 2-10 to: -Discern existing railroad transportation routes from Major Highway corridor routes within the CFPD. -To illustrate all existing active railroad routes or segments thereof within the CFPD that would be considered not reasonably mineable. -To illustrate all existing railroad routes or segments within the CFPD that currently are or potentially could be utilized to transport mined materials. -To illustrate all existing federal, County and state roadways within the CFPD, that are currently utilized to transport mined materials. -To illustrate all existing active County and state roadways, as well as the DRAFT AEIS described associated 200 foot buffers, within the CFPD that would be considered not reasonably mineable. -To revise the acreage removed at the roadway/railroad screening step removing acreage of all roadway and active railroad corridors and associated buffers as these areas are not reasonably mineable. | The figure depicting roads and rail corridors used for screening has been updated (Appendix B, Section 2.5, Figure 6) to be more inclusive, but these do not affect the Tier 1 screening that was conducted. The additional acreage removed by these added corridors has been updated in the Final AEIS. |
| 0000000272-31 | Sarasota County, FL, Christine Robinson | County Government | In regards to Section 2.2.3.3., to allow for a more complete analysis of the AEIS Alternatives, please provide a refined graphic over a recent aerial photograph illustrating the proposed setback for all mining operations from the Peace River, locating the proposed greenway within the outside the proposed Desoto Mine, and locating the proposed beneficiation plant(s). | The setback alternatives for the Peace River Greenway are not included in the Final AEIS because it would not support the purpose and need. There are a series of images in Appendix C and conceptual drawings in Chapter 5 that describe potential areas for setbacks or buffer and a conceptual framework that the USACE may make in their final permitting decisions. |
| 0000000272-32 | Sarasota County, FL, Christine Robinson | County Government | To provide for a more complete alternatives analysis, we recommend illustrating on Figure 2-36, within the 24 AEIS Alternatives to be assessed in more detail, all lands that are encumbered by conservation easements, lands that are not leased by phosphate companies, and lands that are not owned by phosphate companies | Information on lands purchased or leased by mining companies is not relevant to the AEIS other than for those properties that are part of the Applicants' Preferred Alternatives or are included as lands that are considered reasonably foreseeable for future mining, and these are included in the Final AEIS. Conservation easements that affect the potential for mining have been included in the screening of alternatives in the Final AEIS. |
| 0000000272-34 | Sarasota County, FL, Christine | County Government | To allow adequate evaluation of alternatives 2 through 5, please revise Table 4-6 to define the term affected. | This now Table 2-3 and has been revised in the Final AEIS. |

## Alternative Development Process

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| | Robinson | | | |
| 0000000272-75 | Sarasota County, FL, Christine Robinson | County Government | No justification for not evaluating the other Alternatives simply stated that these results will be extrapolated to other mines. | The Final AEIS has expanded the alternatives analysis on the basis of additional information being provided after the Draft AEIS had been published. The details of this analysis in Chapter 2 and Appendix B provide a basis for the alternatives that require more detailed analysis to be included in Chapter 4. All of these alternatives in Chapter 4 are evaluated to the extent possible based on available data and the relevance of the data for comparing impacts among the alternatives. |
| 0000000272-83 | Sarasota County, FL, Christine Robinson | County Government | In ranking/screening of polygons for Alternatives Assessment, a review of sinkhole-prone areas would be beneficial. | Sinkhole locations do not provide sufficient information to compare alternatives. In a review of sinkhole locations in the CFPD, out of over 100 locations plotted by GIS, fewer than a dozen were in the southern portion of the CFPD proposed for mining by the Applicants. |
| 0000000272-84 | Sarasota County, FL, Christine Robinson | County Government | In the discussion of the wet dredging alternative, its use at Wingate Mine due to the depth of the matrix (90 ft below land surface) is reviewed and discarded due to technical limitations however, the Desoto Mine quite a bit further south than Wingate, which would suggest that the matrix may be even deeper at Desoto Mine thus possibly making wet dredging more economical and less environmentally damaging than dewatering. | Comparison of dredge and dragline use in phosphate mining in the CFPD and the Southern Extension must consider efficiency of matrix recovery, which is much greater with dragline mining. Further evaluation of dredging as a functional alternative is provided in Section 2.2.6 of the Final AEIS. |
| 0000000280-9 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.5 Alternatives Evaluated in the Draft AEIS P.4, line 22 It seems the screening process becomes exclusive, in that it blocks consideration of public lands designated as parks, urban areas, etc. This implies all of the remaining land is not excluded from being used in mining or activities related to mining. | The alternatives screening process is described in Appendix B. The first step of the screening process excludes those areas that are not available for mining. The next eight steps consider the remaining areas based on several factors. As shown in Chapter 2 and Appendix B, the Final AEIS screening process identified only four parcels as being reasonable offsite alternatives to be carried forward for additional analysis. |
| 0000000280-19 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.6.4 Economic Resources Economic analysis must include loss of revenues to fishing, boating, recreation and tourism industries due to impaired waters resulting from mine alternatives. The economic value of natural systems must be included to evaluate the trade-off. | As noted in the surface water resources and water quality sections of Chapter 4 Final AEIS there are no indications of a degree or significance of impacts to water quality or water quantity that would affect these natural resources. Therefore, impacts to the economic value of natural ecosystems are not expected from the proposed operations. |

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| 0000000280-25 | Lee County, FL, Roland Ottolini, P.E. | County Government | 3.1.5 10-Mile Limit for Pumping Phosphate P. 3-6, - Although 10 miles may be an industry rule of thumb for the greatest practicable distance to pipe slurry from a mine to a beneficiation plant, this distance should not be used as an absolute limit for mine or plant siting. Given that piping/pumping expenses and other factors are more onerous with longer pipe distances, other factors could over-ride this one factor. | Section 3.1.5 discusses the practicable pumping distance. The USACE did not consider the practicable distance for pumping phosphate ore from a mine to a beneficiation plant during the alternatives screening described in Chapter 2 and Appendix B. However, the USACE may use the practicable distance for pumping phosphate ore from a mine to a beneficiation plant in its further evaluations of the Applicants' Preferred Alternatives as part of its review pursuant to Section 404(b)(1) guidelines (40 CFR 230). |
| 0000000349-6 | Robert Fellman | Private Citizen | Doc Ref = Executive Summary Page = 13 Line = 7 through 9 Issue: AEIS states: "Issues that had comparable risks of environmental consequences across all alternatives and did not provide a means of differentiating the relative merits of the alternatives were afforded only brief examination under the AEIS. These issues categories included air quality and meteorology, geology and soils, topography, land use, aesthetics, transportation, and energy needs." Arbitrary dismissal of important issues. Comment: This statement ignores the relative advantages that the No - Action Alternative provides when compared to all of the other alternatives regarding air quality. What this does, especially in respect of the economic analysis where the beneficiation plants are included to the extent of $1.0 B, is that it dramatically skews the economic analysis to favor virtually any mining alternative without providing any comparative trade-offs. It also removes from discussion any mention of the airborne emissions, emissions of radioactive materials, noise etc from entering the dialog. This is a major oversight that must be addressed. | The Final AEIS includes additional discussion of air quality, noise, and radiation in Chapter 3.3.7 and in Chapter 4. Other areas noted by the commenter are included in the Final AEIS as appropriate for the level of impact anticipated to each area. |
| 0000000351-2 | Debra L Highsmith | Private Citizen | I have read the Purpose and Need statement of the Mountain Top Mining / Valley Fills in Appalachia Final Programmatic Environmental Impact Statement (October, 2005). The reason this PEIS is Programmatic is that it evaluates broad Federal actions such as the adoption of new or revised agency program guidance, policies, or regulations. I recommend that a new phosphate EIS be developed as a PEIS that includes environmental protection and evaluates the need for new regulations like severe buffering as a preferred alternative. | Comment acknowledged. As discussed in Chapter 1, the AEIS is not a programmatic EIS. |

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| 0000000369-7 | Manatee County, FL, Ed Hunzeker | County Government | 3. Section 2.2.4: No exploratory data was presented as to quality/quantity of matrix available to support any of the Offsite Alternatives as viable options. | At the time of the draft AEIS, exploratory data was not available. Prospecting data has been provided for most alternatives and is included in the alternatives analysis in Appendix B. |
| 0000000371-41 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The methodology for assessing off-site alternatives using GIS is both elegant and rationally applied. This exercise identifies potentially future prospective mining sites (assuming no intervening incursions by other land uses). Overall, these analyses provide a reasonable and useful approach to identifying other possible available future mining in the study area. | Comment acknowledged. |
| 0000000371-45 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The AEIS states that: "Phosphate mine operations can impact the SAS in a number of ways. The most direct impact is associated with the nature of phosphate mining as practiced in the CFPD, which involves extensive earthwork within the SAS itself. Groundwater dewatering is accomplished through pumping of the SAS either from a network of shallow wells or through excavation of pits and pumping of water out of the pits." Since phosphate mining in uplands only would also impact groundwater and resulting downstream flows, should the non-action option still include mining in uplands only or does the ACOE not comment on 401 CWA permitting? | The No Action Alternative does include the option of mining uplands and other areas where the USACE does not have jurisdiction, within the constraints posed by other federal or state authorities. |
| 0000000371-68 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | In comparing alternatives to the no-action alternative the AEIS seems to suggest that mining areas and then restoring them (with some restored lands in conservation easements) would be a benefit to having them converted to agriculture or range land. This conclusion seems incorrect in that numerous public Florida agencies have strong programs to purchase and preserve lands. The AEIS seems to have conflicts that while some of the evaluations assume that the mined reclaimed land will revert to agriculture/urban development (post mining flow calculations), other portions of the AEIS assume that significant portions of mined reclaimed land will be placed into conservation. | The No Action Alternative as discussed for several resource categories in Chapter 4 considers the potential that land uses other than mining could convert natural habitat to agricultural uses, and the corresponding Action Alternatives consider that with mining, reclamation would restore natural habitat and return other areas to a beneficial use, as described in Chapter 5. Mining permitted by the USACE and FDEP would also be subject to mitigation requirements as also described in Chapter 5. |
| 0000000389-3 | Helen Comfort | Private Citizen | I would like to suggest that alternative methods to enrich the soil be explored and used. 1. wider spaces between rows of corn as earlier done. Less irrigation needed eliminate need. 2. Plowing dried rubble underground to enrich | Section 2.2.6.2 explains why alternatives avoiding the use of phosphate fertilizer do not meet the project purpose and need. |

## Alternative Development Process

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| 0000000390-3 | Just the Facts | Non-profit Organization | The Corps should objectively examine these alternatives before granting any more 404 permits, and if any are granted, they should be one at a time many years from now only if there is a demonstrated need. | Consideration of purpose and need is part of the USACE regulatory permit review process. |
| 0000000393-4 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | National Environmental Policy Act (NEPA), 40 CFR 1502.14(e) requires the section of the EIS on alternatives to "identify the agency's preferred alternative if one or more exists, in the draft statement, and identify such alternative in the final statement . . ." No such preferred alternative is cited. Therefore, CHNEP assumes ACOE has no preferred alternative at the DAEIS stage. Section 1505.2(b) requires that, in cases where an EIS has been prepared, the Record of Decision (ROD) must identify all alternatives that were considered, ". . . specifying the alternative or alternatives which were considered to be environmentally preferable." Through the identification of the environmentally preferable alternative, the decision-maker is clearly faced with a choice between that alternative and others, and must consider whether the decision accords with the Congressionally declared policies of the Act. With sufficient avoidance, minimization and mitigation, it is possible to develop an alternative which is environmentally preferable to no action. | The USACE implementing regulations (Part 325, Appendix B, 9b(5)) state that the USACE is neither an opponent nor a proponent of the applicant's proposal; therefore, the applicant's final proposal is identified as the "Applicant's Preferred Alternative" in the Final AEIS. The Least Environmentally Damaging Practicable Alternative will be identified in the ROD. |
| 0000000396-6 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | 2. Section 2.2.3, Onsite Alternatives: Satisfactory consideration of mining operations onsite alternatives has not been given. Such onsite alternatives, for example: a) only mining one side of a riverine system at a time, orb) phasing land clearing with reclamation so that muck soils can be directly transferred to reclaimed wetlands, or c) rotating mine blocks to reduce the acres disconnected from a sub-basin as any given time, could minimize environmental impacts or other undesirable consequences. These practices are operationally possible and effective but require some additional planning. However, unless required to consider onsite alternatives in mining operations, the mining industry will continue status quo operations. | Onsite alternatives are now discussed in Chapter 5 of the Final AEIS. Decisions as to whether any measures to avoid or minimize impacts to waters of the U.S. are reasonable or practicable will be documented in the Record of Decision/Statement of Findings for each project. |

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| 0000000397-7A | US Environmental Protection Agency, William L Cox | Federal Agency | 4. DAEIS Alternatives Analysis EPA notes that USACE's "NEPA implementing regulations" appropriately require consideration of a range of reasonable alternatives, including a "no action" alternative and the Applicants' preferred alternatives. EPA notes that the process for identifying alternatives to be considered under this DAEIS, in addition to the "no action" and the Applicants' proposed alternatives, applied two assumptions: The alternatives must be located over the CFPD geological formations where economically-mineable reserves of phosphate are likely to be located. The alternatives must either be located within 10 miles of an existing beneficiation plant that would be able to process the materials excavated at the alternative mine, or a new beneficiation plant would be required as an element of the alternative. EPA notes that the DAEIS appropriately featured a screening of alternatives that included the using of publicly-available geographic information system (GIS) databases and geospatial analytical methods. EPA also concurs with the methodology used: The DAEIS included a preliminary screening of lands within the CFPD that included the identification of features that would preclude some lands from being considered as candidate areas for future mining (such as already mined lands, lands developed as urban areas, publicly owned lands designated for inclusion in parks or other preserved areas, etc). The DAEIS defined, using reasonable assumptions, a minimum parcel size and minimum overall mining areas that would be reasonable for "stand alone" mines. | Comment acknowledged. |
| 0000000397-7B | US Environmental Protection Agency, William L Cox | Federal Agency | The DAEIS included a review of county and local ordinances that might preclude mine siting or mining operations. The DAEIS defined, using reasonable assumptions, the environmental characteristics which would likely increase the difficulty of mining implementation (primarily because of elevated risks of environmental impact). The DAEIS included a complete screening of candidate alternative locations by comparing environmental conditions, with the selection of a reasonable subset of the candidate alternatives for more detailed analysis. EPA notes that the DAEIS appropriately considered a "no action" alternative that assumed no new mining projects would be approved during the 50-year planning horizon analyzed (through 2060). As required under | Comment acknowledged. Section 3.1.5 of the Final AEIS expands the discussion of the practicable distance between mining areas and a beneficiation plant. |

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| | | | NEPA, the DAEIS also considered the Applicants' Preferred Alternatives (Alternatives 2 through 5) as described in the respective permit applications, as well as all foreseeable mines (Alternatives 6 through 8). Finally, the DAEIS included an additional 17 areas that were identified and defined as "offsite alternatives" warranting more detailed analysis following the preliminary and secondary screening of candidate mining locations in the CFPD (Alternatives 9 to 25). EPA Recommendation: In the Overall Project Purpose discussion, the FAEIS should include additional justification on the "practicable distance," which the DAEIS defines as the distance between the ore extraction area and a new or existing beneficiation plant. EPA notes that by allowing only a slightly greater distance than the 10-mile distance used for mine site planning in the DAEIS (such as a 12-mile distance), additional flexibility would be possible in mine plan configurations, including the potential for fewer beneficiation facilities required. | |
| 0000000542-17 | Percy Angelo | Private Citizen | Further, as additionally discussed below, the entire Bone Valley phosphate deposit is the subject of the AEIS, and all the alternatives examined are simply alternative mining sites within the CFPD. | Comment acknowledged. |
| 0000000542-54 | Percy Angelo | Private Citizen | A hint of the recovery which could occur without further permitting is provided by the chart above, Ex. 1. That chart shows the drop in mined and unreclaimed lands, and the drop in surface water capture acreage as current mining winds down, until 2018. If that wind down were permitted to continue, till reclamation of current mines were completed, one would see the true no action alternative. | Comment acknowledged. The process described, where mining-related effects are reduced over time to a 'No Action' level as mining, reclamation, mitigation, and other activities are completed, is the basis for most of the determinations of effect and significance in the Final AEIS. |
| 0000000547-22 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | The analysis of the 17 alternative tracts was limited to existing land uses and characteristics. No analysis of potential mining-related impacts on regional resources was conducted for these tracts, and substantial additional study would be needed. Because the DAEIS does not provide information concerning the 17 alternative tracts that would be reasonably useful if any of these tracts are proposed for mining beyond the next 10 years, and the industry itself has not indicated its interest in these tracts, it is recommended that the Final AEIS not include identification of alternative tracts. Additional future plans for phosphate mining in the | CEQ and USACE regulations require the identification and consideration of alternatives to the proposed action. Chapter 2 and Appendix B describe the identification of the project alternatives. The direct and indirect effects of the four Applicants' Preferred Alternatives and the four Offsite Alternatives, and the cumulative effects of past, present, and reasonably foreseeable actions, including phosphate mines, are considered in Chapter 4. Mitigation alternatives are described in Chapter 5. |

## Alternative Development Process

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| | | | Central Florida Phosphate District should be considered through the federal, state and local permitting and planning processes, or potentially another Areawide EIS. | |
| 0000000553-29 | Percy Angelo | Private Citizen | Mosaic was asked to provide similar data for the South Fort Meade mine extension, and refused. The Corps paid no attention to the request for such an analysis in the DAEIS. The conclusion must be that the analysis would show that protective mitigation measures are in fact practicable. Limited term permits, stream setbacks, alternatives to water for transport of matrix, accelerated reclamation, rock import, offsite preservation, monitoring, independent review panels, all must be considered available mitigation methods and alternatives. | Functional alternatives, including alternative transport methods, are discussed in Chapter 2 of the Final AEIS. Mitigation alternatives, including periodic review of permits, buffers, monitoring and adaptive management, and offsite compensatory mitigation, are discussed in Chapter 5. |

## Mitigation

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **MIT-1** | | | **These comments address the use of mitigation approaches that would involve habitat preservation/avoidance and buffers. The specific avoidance and buffer approaches presented in the draft AEIS and the lack of such approaches for all the alternatives are questioned. Commenters stated that there were no guidelines for avoidance of impacts to wetlands or streams and assumed that the approach of buffers proposed in the draft AEIS suggested that mining adjacent to these areas was preferable to preservation of surrounding lands, There was also a comment that stated that the use of WRAP or UMAM could be biased and not be a suitable basis for defining buffers. Another commenter noted that buffers were never adequately described as part of a mitigation measure and should have been recognized as part of a conservation program.** | **As part of the consideration of onsite alternatives, a mitigation framework was developed based on public/agency comments received on the Draft AEIS and workshops USACE conducted with USFWS, USEPA, and NMFS. The framework identifies priority-based impact avoidance and minimization criteria and approaches, including revised buffers. The purpose of the framework is to inform the public as to how the USACE project managers will apply input received to the mitigation sequencing for the four applications pursuant to the 404(b)1 Guidelines. The framework is discussed in detail in Chapter 5 of the Final AEIS** |
| 000000272-61 | Sarasota County, FL, Christine Robinson | County Government | 5-1 There are no guidelines described to address the criteria for avoidance, minimization or the justification for impacts to wetland and streams. This chapter should be expanded to include the above steps. Please clarify the specific ACOE permitting wetland & stream avoidance and minimization requirements that are being applied with all phosphate mine application. As a reference, The Florida Department of Environmental Protection and the Water Management District have guidelines for the avoidance and/or minimization of wetland impacts proposed under a phosphate mine application. These are found in the Basis of Review (B.O.R.) In the Environmental Resource Permit (ERP). Here, a reviewer can follow the B.O.R. guidelines and assess if an impact can be avoided, minimized and if not able to avoid or minimize, follow the ERP criteria for proper mitigation. | Included in summary response above. |
| 000000393-29 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the Chapter 5: Mitigation and requests that a revised draft be released. Chapter 5 should include a presentation of avoidance and minimization techniques for all of the alternative groups. Furthermore, Chapter 5 should follow the federal sequencing of avoidance, minimization and mitigation. The full package of avoidance, minimization and mitigation should be applied to all alternatives evaluated through the DAEIS for comparison to the No Action alternative. This may assist the ACOE to declare | Included in summary response above. |

## Mitigation

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| | | | the environmentally preferable alternative. Avoidance techniques include protecting existing stream riparian systems and uplands vital to the ecological function of the system, CLIP priority 1 and 2 areas and Integrated Habitat Network areas within the mine footprint. Minimization techniques include minimizing containment areas at any given time, protecting offsite SAS water levels, implementing Best Management Practices (BMPs) to treat water quality for constituents of concern, employing ways to moderate changes in surface water flow from the property and restoring stream courses ditched for agriculture. We understand that a wide array of avoidance and minimization techniques is employed through modern phosphate mining permits and through BMPs. CHNEP requests that these techniques be presented in detail, by each of the primary issues of concern identified in the executive summary, page 3. | |
| 000000542-155 | Percy Angelo | Private Citizen | The DAEIS does provide the data for a useful approach to identification of the most desirable habitat for preservation at the proposed mines. See App. C. A very reasonable mitigation strategy might include a combination of range of buffers along with preservation areas in the most high value locations at a site. While we believe the data must exist for such an approach, it unfortunately is not addressed in the DAEIS. We encourage its inclusion in the final document. | Included in summary response above. |
| **MIT-2** | | | **These comments address the use of a watershed-based approach in mitigation via federal regulations and guidelines. Comments are also made regarding impacts to the primary watersheds within the study area and to the Charlotte Harbor Estuary.** | **The 2008 Compensatory Mitigation Rule states that the USACE must use a watershed approach to compensatory mitigation to the extent appropriate and practicable. All of the federal compensatory mitigation options evaluated in Chapter 5, and all of the mitigation plans to be evaluated for the four similar actions, will use a watershed-based approach in accordance with this rule. The AEIS has assessed the cumulative impacts of foreseeable mining and the projected reclamation quantities and rates within affected watersheds (Peace and Myakka) and on the Charlotte Harbor Estuary through 2060 to the extent allowable by available data and analytical methods. This analysis is provided in Chapter 4 of the Final AEIS.** |

## Mitigation

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000542-27 | Percy Angelo | Private Citizen | Mitigation is supposed to be watershed based, but if a good part of the watershed is mined finding mitigation lands becomes a real concern. Surely the Pine Island mitigation bank is not the answer to this problem. | Included in summary response above. |
| 000000550-9 | POW & LBC, James Cooper | Environmental Organization | In MARCH 2006, per 40 CFR Part 230 the Army Corps was required by Federal law to assess: adopting a watershed approach to wetland losses & wetland mitigation and to give priority in coastal areas to maintaining aquatic resources. This DEIS fails to include many scientific health of the Harbor studies for Charlotte Harbor. (explained - further on). In April 2008, 40 CFR Part 230 became law & the ACE was now mandated to adopt the Watershed Approach to each and all new Section 404 CWA Permits. Sub-part J, Para 230.91 defines rules for Compensatory Mitigation for Losses of Aquatic Resources. It clearly states: the Watershed Approach must be established by the ACE in DA - CWA permits to the extent appropriate & practical. The ultimate goal of the watershed approach is to maintain & improve the quality and quantity of aquatic resources within watersheds and if mitigation is needed it should be via strategic selection of compensatory sites. The watershed approach ensures any project will provide the desired aquatic function (note: functionality remains a priority) and it will continue over time in a changing landscape. It considers the habitat requirements of all important species. Clearly the Federal protected: Endangered Sawfish in Charlotte Harbor, the Peace & Myakka Rivers is an important species& its vital juvenile habitat nursery areas must be protected (See Sawfish discussion FLAW: later on). | Included in summary response above. |
| 000000550-11 | POW & LBC, James Cooper | Environmental Organization | The NWMAP stated specifically, that in the past - watersheds were not properly considered. The CFPD DAEIS is a prime example, of this failure. Here is the new guidance: Compensation mitigation decisions are made on a case-by-case basis and often do not consider the proper placement of mitigation projects within the landscape context, the ecological needs of the watershed, and the cumulative effects of past impacts. The Federal agencies (in this case the ACE) will analyze the issues associated with better use of compensatory mitigation within a watershed context, with the assistance from the States and agencies (EPA). Following | Included in summary response above. |

## Mitigation

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| | | | this analysis, the agencies WILL develop guidance to encourage placement of mitigation where it would have the greatest benefit and probability for the long term sustainability. This guidance was NOT followed in this DAEIS. The NWMAP stated: This guidance will help decision makers utilize watershed-based planning tools/resources already developed by the agencies, such as the Charlotte Harbor NEP: 3 key watershed health indicators, & State: Basin Management Approach, regional: Synoptic Assessment, Southeastern: Ecological Framework, and local: watershed management plans, land sustainability models, watershed planning efforts. It is NOT an option to avoid this. This guidance WILL compliment other non-regulatory watershed management initiatives & partnerships. The DAEIS currently fails to consider Charlotte Harbor as a vital strategic national priority watershed system & they have failed to properly analyze, list, protect and prevent combined cumulative impacts from upstream mining on this vital regional area by failing to list and analyze all 6 known future large Phosphate CWA mines, which will account for 92,000 acres of new mining impacts lasting until 2070 or beyond. | |
| **MIT-3** | | | **These comments pertain to the lack of information in the AEIS on the applicants' federal 404 wetland mitigation plans for the four currently proposed mines. The comments question whether the AEIS can properly assess impacts and proposed compensation for the proposed action and alternatives without the applicants' mitigation plans.** | **In Chapter 5, the Final AEIS provides a description of the mitigation plans for the four proposed actions as proposed at the time of preparation of the document. In addition, there is a discussion of general and regional mitigation alternatives for the four proposed actions in Chapter 5. The USACE will continue to evaluate the mitigation plans for the four projects in accordance with appropriate federal regulations, and the specific Record of Decision and Statement of Findings for each project will describe those mitigation measures that the agency is adopting and committed to implementing.** |
| 000000277-7 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | The AEIS indicates the Applicants plan to mitigate onsite. The success rates of this mitigation vary widely based on the source of the information. "The reclamation efforts seek to establish a surficial soil horizon that emulates the characteristics of the unmined lands. However, the relative success of the efforts has been long debated due to the concerns that the reclaimed lands areas lead to alterations in soil conditions lead to modified rainfall infiltration rates and | Included in summary response above. |

## Mitigation

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| | | | runoff conditions that in the aggregate modify localized site water balance conditions." In short, land reclamation is not easy or easily accomplished and is a long process that requires diligence and effort. Q.6 -When will the mitigation plans be included in the AEIS? At the time of the AEIS the applicants had not submitted the Clean Water Act section 404 permit application for wetland mitigation plans; USACE is currently verifying the applicant's determinations of jurisdictional wetlands. | |
| 000000378-5 | Winchester Environmental Associates, Inc., Brian Winchester | Company | This evaluation should include an objective assessment of not only the net change of wetland acreage after project completion, but also the extent to which the structure and function of the mitigation wetlands successfully replace the structure and function of the impacted wetlands. To be compliant with CMR, this evaluation must be done for each wetland type. Inasmuch as Mosaic has not yet submitted the specific reclamation plans necessary to do these evaluations, the AEIS should not be finalized, nor should agency action be taken on the ERP/Section 404 permit applications, until such evaluations have been completed. It should be noted that there are other issues related to in-kind wetland mitigation, particularly with regard to the mining industries claims that they can successfully reclaim certain problematic wetland types. These are discussed later in WEAs Comments. That being said, the USACE (and their third-party contractor) are nevertheless obligated to fully apply their technical knowledge, past experience, and professional judgment to the data and assertions being supplied by the applicants. It is inexcusable to present data and information as if they are factual and reliable when the USACE and/or AEIS authors are fully aware of contraindications. Based upon my review of the draft AEIS to-date, it is my professional opinion that the draft AEIS as issued is biased, inaccurate, and incomplete. Some of my reasons for this conclusion are explained in the comments to follow. Furthermore, it is my opinion that the AEIS should not be finalized, nor should agency action be taken on the four mining ERP/Section 404 permit applications, until the deficiencies of the draft AEIS have been properly addressed. | Included in summary response above. |

## Mitigation

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| 000000378-10 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 10: The AEIS provides no evaluation or meaningful discussion of the wetland reclamation plans of Mosaics three proposed mines. As already noted, the specific wetland reclamation plans for Mosaics proposed three new mines were not available for the AEIS teams review. These wetland reclamation plans are arguably amongst the most important documents needed to objectively and accurately review the net environmental impacts of Mosaics three mines in particular and the cumulative impact of all four mines together. It is simply inadequate to review and discuss some general information on the wetland mitigation estimated to be conducted at the four currently proposed mines sites based on preliminary information contained in the Applicants Section 404 permit applications as the AEIS states on p. 5-17. It is in the specifics of the wetland reclamation plans that a reviewer would determine: 1) whether the Mosaic is truly going to use state-of-the-art science and technology in their wetland reclamation, 2) whether the application of best reclamation practices is strictly required or optional for Mosaic to apply when they consider it practicable, 3) whether the wetland reclamation plans truly meet the requirements of the Federal Compensatory Mitigation Rule or only the lesser state standards, 4) whether wetland reclamation success criteria are based on objective, scientific measures instead of flexible, subjective opinions, and 5) whether the underlying assumptions upon which future WRAP/UMAM scores are projected for wetlands yet to be reclaimed are valid, reasonable, and based on actual, present reclamation success rates. The publication of the draft AEIS in advance of knowing the specifics of Mosaics proposed wetland reclamation plans for each of the three mines is premature and circumvents the NEPA process. In Section 5.6, the AEIS stated that the wetland mitigation plans for the proposed mines had not been submitted to USACE because USACE verifications of the Applicants jurisdictional wetland determinations (delineations of federal jurisdictional wetlands/waters) were still ongoing.... and subject to change pending USACE approval of the jurisdictional determinations; consequently, the associated mitigation plans were still under development. This is a transparently weak justification for the applicants | Included in summary response above. |

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| | | | not providing their wetland reclamation/mitigation plans. There is no reason the applicants could not have presented their most up-to-date versions of their mitigation plans with the caveat that some adjustments in wetland acreages might still occur. Slight adjustments to final wetland reclamation acreages should have no material effect on the mine-specific reclamation methodologies and overall reclamation plans the applicants intend to use those still could have been described in detail by the applicants. Furthermore, both applicants provided precise acreages of USACE-jurisdictional wetlands to be impacted for their mines throughout the AEIS (e.g. Tables ES-2, 2-3, 4-6, 5-1; Sections 4.3.2.1 through 4.3.2.4), and only once mentioned in a footnote that these acreages were still subject to USACE verification. It is inappropriate for USACE to allow a ERP/Section 404 permits to proceed to public comment when something as essential as the wetland reclamation plans have not been considered in USACEs review. One would expect the USACE to request additional information and keep the applications in incomplete status until the applicants provided the necessary information. Additionally, one would expect USACE to not release the draft AEIS until such information had been provided. | |
| **MIT-4** | | | **These comments address the issue of whether the mitigation/reclamation conducted by the phosphate industry is effective and successful with respect to replacing the types and functions of the wetlands and streams impacted during mining. Comments also address how mitigation systems compare to undisturbed natural systems and how USACE through the AEIS will assess the effectiveness of current mitigation for permitting future mines. One commenter noted that there has not been sufficient evidence to demonstrate that improved technologies are successful nor being uniformly applied by the industry and that more field studies should have been conducted for the AEIS. Another commenter noted that wetlands cannot be created in the time frame anticipated in the AEIS and that the release of restored wetlands is not up to date. A similar comment indicated a lack of successful hydrologic functions to achieve mitigation targets. One commenter noted that adequate data are not available in the draft AEIS to demonstrate success in mitigation and only** | |

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| | | | **presents targets for reclamation for the proposed mines. A related commenti indicated that the current state of the art of mitigation for successful restoration has not been demonstrated and the relationship between state and federal required mitigation is not adequately explained. Other commenters stated that the assumption for success assumes the lack of interruption of storm water flows and consistency in groundwater pumping.** | |
| 000000272-5 | Sarasota County, FL, Christine Robinson | County Government | The discussion of mitigation gives a conclusory assertion of an "evolution" in technology, but does not explain how this evolution took place, and gives no empirical data which demonstrates that the post- reclamation wetlands and streams resemble native habitats in soil type, soil pH, dominant vegetative species composition, species richness or diversity, use by wetland dependent species, microtopography, or hydroperiods. Despite assertions by the industry that undesirable vegetative species in restored wetlands will inevitably die out and give way to desired species, some of the oldest reclamation sites are still dominated by wax myrtle or Carolina willow. Given the doubts expressed again and again about the efficacy of past reclamation and restoration technologies in past state administrative litigation involving the Manson Jenkins tract, Altman Tract, Ona-Ft. Green Extension and South Ft. Meade Extension, the Draft AEIS should provide an in depth discussion as to the reasons by it is believed that current technology will correct past failures. | Included in summary response above. |
| 000000281-7 | Sandra Ripberger | Private Citizen | Despite many requests before the AEIS draft was issued, the study did not look at whether reclamation works. The proposed four mines include jurisdictional wetlands of high quality and nowhere in the AEIS are reclamation sites analyzed or studies cited that demonstrate poor reclamation results. | Included in summary response above. |
| 000000281-8 | Sandra Ripberger | Private Citizen | The AEIS says that wetlands are proposed to be mitigated using the states reclamation requirements as if their functions can be replaced. Evidence indicates this will not be the case. Wetlands can not be created in eight years and some types of forested wetlands will take decades. Frequent variances granted by DEP allow delays for another ten to | Included in summary response above. |

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| | | | twenty years. Reclamation to date has been unsuccessful in restoring the nature and function of most Florida native wetland types. In Manatee County only 300 of 13,000 mined acres have been reclaimed and released. The State Reclamation Report for 2010 also shows that Mosaic is not up to date in its reclamation for two mines. Consideration should be given to not giving permits until mined land is reclaimed and released. | |
| 000000351-14 | Debra L Highsmith | Private Citizen | The value of natural lands over mitigated lands is never calculated. For example, what is the value of a natural stream versus the quality of an artificial stream on reclaimed land? Mitigation should obviously include avoidance and minimization. Instead, this study incorrectly goes directly to offsite mitigation. | Included in summary response above. |
| 000000369-44 | Manatee County, FL, Ed Hunzeker | County Government | 3. Section 5.3.7, Assessment of Mitigation Success: This item is of utmost concern to Manatee County. Manatee County staff agrees with the draft AIES statement (Page 5-8, lines 21-23) that an evaluation of wetland mitigation should use a functional analyses such as described in Section 5.3.6 and was disappointed to find no such evaluation in the draft AEIS. Although the federal Section 404 program does not have a minimum establishment period for regulatory release of mitigation wetlands (Page 5-5, lines 29¬32), the industry's annual mitigation reports should be reviewed and a summary of current amount of wetland mitigation meeting success criteria (released and non-released) should be provided. Also, a functional evaluation should be performed of those wetlands and compared to impacted wetlands. | Included in summary response above. |
| 000000373-7 | Audubon Florida, Eric Draper | Environmental Organization | Mitigation: The draft does not effectively evaluate current state of the art mitigation for phosphate mining or evaluate mitigation in concert with state required reclamation. Mitigation should be required to replace type for type lost wetland functions and to demonstrate over a long period the effectiveness of the outcome. Additionally as part of compensatory activities, applicants could be asked to conduct off-site improvements to (primarily agricultural) drainage systems that have the effect of flash draining stormwater into streams and rivers and draining isolated and other wetlands. Relationship between required reclamation and mitigation: As noted above, the draft does not adequately show the | Included in summary response above. |

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| | | | relationship between state required reclamation and federal mitigation. The draft does suggest that some mitigation could take place on non-reclaimed lands. This could have system wide benefits but it may be limited by the need to keep mitigation within the impacted basin. | |
| 000000378-6 | Winchester Environmental Associates, Inc., Brian Winchester | Company | The demonstrated history of the phosphate industry with regard to restoring the type, nature, and function of wetlands systems is one of consistent failure. I make that statement not on the basis of subjective opinion, but on the basis of numerous carefully planned and executed quantitative site studies comparing the ecological features of reclaimed and natural wetlands within the CFPD. Those studies were completed in 2003-2004. At that time, although there were many examples of reclaimed wet, vegetated areas that were technically wetlands, most bore little resemblance to natural Florida wetlands. While the industry had demonstrated the ability to reclaim deep pickerelweed marshes, cypress swamps, and willow stands, they struggled to produce many of the other wetland systems commonly found in the CFPD. While it is possible that there have been some improvements in how wetland reclamation is now implemented, I know of no time-tested evidence demonstrating that such improved methodologies are successful and are being uniformly applied by the industry. | Included in summary response above. |
| 000000378-7 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 7: The AEIS provides no specific, objective evidence that wetland reclamation as currently practiced by the phosphate industry successfully re-creates all of the wetland types impacted by mining. The AEIS (p. 5-5) states that the determination of mitigation success is made by regulatory agencies when a positive trend is evident based on regulatory success criteria, and not when the wetland reaches a stable condition. Over the last two decades there have been thousands of wetland acres released by agencies as being successfully reclaimed that in fact never demonstrated the type and function characteristics comparable to the native wetland systems they were intended to replace. Whether the issue was one of improperly designed success criteria, lax enforcement of restoration goals, or expediency, the fact remains that numerous failed wetland reclamation sites were released | Included in summary response above. |

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| | | | because in someones professional judgment they were showing a positive trend. The AEIS fails to properly recognize how pervasive the past wetland reclamation failures have been, and does not bring an appropriately guarded skepticism (based on past experience) to the wetland reclamation process today. Nowhere does the AEIS state how or why one can believe that wetland reclamation has improved enough to justify the currently proposed impacts. Nowhere does the AEIS provide site-specific evidence of new and improved wetland reclamation that has been independently reviewed by either the AEIS preparers or professional scientists not in the employ of the phosphate industry. The AEIS presents a brief discussion of wetland reclamation techniques and methodologies, including using a watershed-based approach, stockpiling and use of wetland topsoils, planting of nursery-grown stock, and use of modeling to predict target hydrologic conditions. But this AEIS discussion is simply a list of the techniques and methodologies that most wetland scientists working in central Florida are already aware of. The AEIS does not objectively discuss the extent to which these methods are reliably successful, how and why these methods may fail, whether these reclaimed wetlands are fully compliant with the more stringent requirements of the CMR, the consistency with which these reclamation techniques are used by the industry, and whether the use of these best reclamation methodologies is required or only discretionary for the applicants. For the AEIS discussion of mitigation to be relevant to the NEPA evaluation of potential net wetland impacts, it must concentrate on assessing the functional effectiveness of wetland reclamation efforts, rather than listing the methods used to achieve wetland reclamation. For example, the AEIS (p. 5-7) states that the application of salvaged wetland topsoils into created wetlands is standard practice. But the AEIS preparers do not cite their support for making this statement. Is it because they have observed the use of topsoiling in all or many of the current wetland reclamation efforts they visited (if they indeed visited any....which would be nice to know)? Is it because they have examined numerous wetland reclamation plans and no that topsoiling has been consistently specified? Or is it simply | |

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| | | | because the applicants told the AEIS preparers that topsoiling is standard practice? This kind of rigorous inquiry is the only way the AEIS review can differentiate between what wetland reclamation is truly likely to achieve versus what the applicants claim it will achieve. In summary, the AEIS should not only identify the best, state-of-the-science methodologies applicable to wetland reclamation, but it should assess whether they are actually being used and whether they are actually achieving the results required by the CMR. | |
| 000000386-1 | Betty Sue Carroll | Private Citizen | Anyone with any sense at all would demand that there be no further damage allowed to our watershed until the promised reclamation is completed and there has been a chance to evaluate the success of those projects. To my knowledge, there have been promises to reclaim wetlands and areas adjacent to Peace River feeder creeks for years, but I have heard nothing about their completion nor their success. | Included in summary response above. |
| 000000390-6 | Just the Facts | Non-profit Organization | 2. The AEIS makes the assumption that reclaimed land is available for other uses within 8 years of completion of mining. Yet, in Manatee County for example, only about 300 acres have been reclaimed and released after about 30 years of mining. Much of the post-mining land has infrastructure, old equipment, etc. The AEIS should have investigated how land that has been mined and reclaimed is being used instead of making an assumption which is obviously an assertion made by the mining companies. 3. Underlying Chapter 5 and the AEIS is the unstated assumption that mitigation/reclamation works. A field study should have been conducted using randomly drawn parcels to determine if mitigation/reclamation meets predetermined criteria for success. The AEIS should have evaluated whether wetland reclamation is achieving the required "gain" in terms of both area and function, the time lapse in achieving similar function, and the extent to which certain types of wetlands, such as bayheads, forested wetlands, and wet prairies can even be reclaimed. Experts in reclamation who have made site visits have said that reclamation efforts are unsuccessful in restoring the nature, type, and function of many native Florida wetland types. This casts major doubt about whether permits to mine these wetlands should even be granted. The avoidance, minimization, and compensatory mitigation | Included in summary response above. |

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| | | | sequence should be more fully discussed in this chapter. | |
| 000000430-12 | USGS, Arturo E Torres | Federal Agency | The DAEIS does not provide adequate data from actual mitigation and reclamation efforts to demonstrate the mining industrys current ability to meet the permitted targets for stream and wetland mitigation. These results are needed to inform conclusions about cumulative impacts from mining in the Central Florida Phosphate District (CFPD). References to previously published or completed mitigation and reclamation data are lacking and would strengthen the contentions of the Applicant and FDEP that proposed targets are achievable. The AEIS presents only the Applicants targets for wetland and stream reclamation for the 4 proposed mines, as contained in the Applicants Section 404 permit applications (p. 5-18 through 5.-20). As indicated in the tables, each Applicant proposes to reclaim more wetland area and stream length than currently exist at the mine sites. For scientific credibility, however, what also is needed in Chapter 5: MITIGATION is an analysis of previously proposed targets in Applicant permits that have been met in the field at other mining sites, namely, restoration of wetland area and stream length during specified time periods. Without an objective summary of field performance data to date for these reclamation targets, the estimates given in the permit applications cannot be evaluated, and so may or may not be achievable over a realistic timeline. A concerted effort has been made to mitigate losses to streams and wetlands. The degree to which these targets are met should be reported. | Included in summary response above. |
| 000000430-13 | USGS, Arturo E Torres | Federal Agency | The DAEIS provides no field-performance data on the level of hydrologic function that can be expected of reclaimed streams and wetlands that are in the mitigation targets. A synthesis of the findings from field observations of flows and water levels, and analyses of the post-reclamation hydrology of mining tracts, are needed in the AEIS to assess the cumulative impacts from mining on the hydrologic function of streams and wetlands in the CFPD. | Included in summary response above. |
| 000000542-95 | Percy Angelo | Private Citizen | The AEIS makes demonstrably false assumptions about the success of reclamation and the impacts of reclamation delays and failures-While the AEIS makes differing assumptions in different places, all of its inconsistent assumptions about the completion of restoration are also inconsistent with reality. | Included in summary response above. |

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| | | | Cynthia Barnett in her book Mirage indicates that 3/4 of artificially created wetlands fail. Ex.13, at 86. She also cites the 2005 investigation by Craig Pittman and Matthew Waite in the St. Petersburg Times which used satellite imagery of land cover to demonstrate that at least 84,000 acres of wetlands in Florida had been lost during the 15 year period after President George H.W. Bush declared the national policy to be No Net Loss. The same reporters found that the Corps allowed a higher percentage of wetland destruction in Florida than in any other state. Id. at 87. The DAEIS admits that wetland quality is lower overall than predevelopment, due in part to mining. 3-107. | |
| 000000542-97 | Percy Angelo | Private Citizen | In the face of these facts the DAEIS nevertheless assumes that reclamation will be complete just a few years after mining ceases. (The DAEIS estimates actually vary quite a bit at different points, with little explanation of the inconsistency. See discussion in Section U, below). This assumption underlies many conclusions, about the period of stormwater flow interruption, the period of groundwater pumping, and the period of wetland disruption and lack of vegetative cover. The AEIS needs to be blunt, the period before reclamation is the period when the ground looks like a moonscape, and this goes on for years. Nowhere does the DAEIS acknowledge the very damaging impacts of this period in terms of lost habitat, hydrological function or local climate. The total disruption is quite significant over time. See Ex. 1. | Included in summary response above. |
| 000000542-191 | Percy Angelo | Private Citizen | The AEIS makes demonstrably false assumptions about the success of reclamation and the impacts of reclamation delays and failures- Ex. 13, Cynthia Barnett, Mirage, Florida and the Vanishing Water of the Eastern U.S., (2007) at 54, 59-62, 86-87, 176-79 (excerpts) | Included in summary response above. |
| **MIT-5** | | | **Several comments were received questioning whether the mitigation conducted by the phosphate industry is sufficiently in accordance with the 2008 Compensatory Mitigation Rule.** | **The USACE will continue to evaluate the mitigation plans for the four projects in accordance with the 2008 Compensatory Mitigation Rule, and other federal regulations, including consideration of a watershed approach, use of appropriate functional analyses, mitigation sequencing, and monitoring and success requirements. The specific Record of Decision and Statement of Findings for each project will describe those mitigation measures that the agency is adopting and committed to implementing.** |

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| 000000371-88 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The Compensatory Mitigation Rule or the 2008 Mitigation Rule (33 CFR Parts 325 and 332) designates methods to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function, and to increase the efficiency and predictability of the mitigation project review process. The phosphate industry has made significant strides in mitigating wetland and stream impacts. The draft AEIS does a good job of laying out a series of idealized mitigation goals/objectives. However, there seems to be a lack of alternatives to specific mitigation approaches that will be required under the needed 404 permits or any specific target performance metrics/criteria that will be required and/or implemented. The AEIS states a number of times that the goal of mitigation will be to replace biological function. Is the ACOE going to require more than "one for one" replacement? What performance metrics will be required? This section does an excellent job of describing what "can/should be" done given the current status of available mitigation technology. However, the AEIS does not state that these methods "will be" required under the applicable 404 permitting, nor does it set specific performance criteria/metrics that will be met. | Included in summary response above. |
| 000000378-3 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 3: Chapter 6 of AEIS, entitled Compliance with Environmental Requirements, should include a thorough discussion of the extent to which the mining alternatives comply with the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332). The AEIS remains an incomplete document until such time as the issue of wetland mitigation/reclamation is thoroughly reviewed for phosphate mining in the CFPD in general and for each of the four currently proposed mines. Without such an assessment, there is no way to evaluate whether the proposed wetland impacts are likely to be offset by proposed wetland reclamation. While less rigorous state wetland reclamation requirements may be legally allowable for consideration by FDEP/BMR, state standards have no bearing on USACEs assessment of wetland reclamation, nor are they relevant to this AEIS. Federal wetlands mitigation standards and requirements are specified in detail in the CMR, and USACE must evaluate all new phosphate mines and/or mine extensions (if they require new permits or permit | Included in summary response above. |

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| | | | modifications) under the guidance and requirements of the CMR. | |
| 000000378-4 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 4: The AEIS review fails to address temporal loss considerations associated with wetland reclamation, and fails to challenge this area of non-compliance with the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332). Section 332.3(f)(2) of the CMR states: The district engineer must require a mitigation ratio greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site. The rationale for the required replacement ratio must be documented in the administrative record for the permit action [emphasis added]. Section 332.2 of the CMR defines temporal loss as the time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site. Temporal loss reflects the practical recognition that reclaimed/created wetlands do not immediately provide full compensation for the wetland functions they are intended to replace. Even if one assumed that the wetland reclamation proposed in the four ERP/Section 404 permit applications would eventually be fully successful and achieve all functional goals (which is an improper assumption based on the current state of many reclamation wetlands), the reclaimed wetlands would still take time to grow, reach maturity, and provide the ecological benefits they are intended to replace. In consideration of this, when it is known that temporal losses in wetland function will occur, the CMR explicitly states that USACE must require a greater mitigation ratio than one-to-one. The AEIS is negligent in that it contains no proper discussion of the temporal loss impacts that occur to wetlands as a result of phosphate mining. The AEIS also misleadingly gives the impression that temporal loss is considered in the wetland functional evaluations. For example, Section 4.12.3.2 of the | Included in summary response above. |

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| | | | AEIS states that using the Wetland Rapid Assessment Procedure (WRAP) provides the opportunity to incorporate temporal impacts into calculations of the necessary wetland and stream mitigation. But in fact, at least one of the mining companies does not incorporate temporal loss considerations in their WRAP or UMAM analyses simply because they assert they are exempt from such requirements. In the case of South Pasture Mine Extension, CF Industries boldly states in Section 8.2.2 of Attachment C-1 of their ERP Application that as mining projects are exempt from time lag considerations, all mitigation wetlands were assigned a time lag of 1 (no lag). Mosaics position on temporal loss cannot as yet be determined because they elected to withhold their wetland reclamation plans from the USACE and the AEIS review team. Furthermore, Mosaic also failed to produce the wetland reclamation plans as part of their joint state-federal ERP permit application, essentially leaving the USACE and the AEIS preparers unable to formulate informed opinions on whether the proposed mines will or will not comply with the mitigation requirements of the CMR. It seems likely that Mosaic will join CF Industries in asserting that they are exempt from having to comply with federal regulations requiring that they mitigate for wetland temporal loss. | |
| 000000378-5 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 5: The AEIS review fails to address applicants noncompliance with the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332) requirement for in-kind wetland reclamation. Section 332.3(e) of the CMR states: ...in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to compensate for the functions and services lost at the impact site... and For difficult-to-replace resources (e.g., bogs, fens, springs, streams, Atlantic white cedar swamps) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts. Section 332.2 of the CMR defines in-kind as a resource of a similar structural and functional type to the impacted resource. On the state level, the phosphate mining industry has historically been granted very permissive requirements with regard to wetland mitigation. The state | Included in summary response above. |

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| | | | standards do not require in-kind mitigation (also known as type-for-type mitigation) like the CMR, requiring only that impacts to forested wetlands be compensated for with forested wetland mitigation, and similarly non-forested wetland impacts be compensated for by non-forested wetland mitigation. Although some proponents of these lax standards claim they are type-for-type, this is clearly not the case, as they allow the replacement of diverse hardwood swamps with cypress monocultures, seepage-maintained bay swamps with long-hydroperiod willow swamps, and short-hydroperiod wet prairies with deep, permanently flooded pickerelweed marshes (all of which have actually happened in the past mine reclamation efforts and been considered acceptable wetland reclamation). The CMR sets a higher standard, intending that each wetland type be replaced through mitigation involving the same kind of wetland. Under the CMR, bay swamp/forested seepage wetlands cannot be acceptably mitigated in any way other than the preservation, restoration, enhancement, and/or creation of bay swamp/ forested seepage wetlands. The CMR further instructs that for difficult-to-replace resources that have an inherently high risk of not being successfully created, it is preferable to mitigate via in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts. Clearly, CMR does envision adequate mitigation for a mining project to simply consist of the site having larger forested wetland acreages than it had before being mined. Within the CFPD, difficult-to-replace wetland resources would most certainly include bay swamps/forested seepage wetlands and wet prairies. The AEIS review does not demonstrate an understanding that mining impacts to wetlands of the CFPD must be evaluated in the context of each kind of wetland involved. Accordingly, a proper evaluation by USACE of impacts to each wetland type should be added to the AEIS. | |

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| 000000378-6 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 6: The AEIS fails to discuss other ways in which the proposed mines are either non-compliant with or non-responsive to the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332). 1. The AEIS acknowledges (p. 31) that the four currently proposed mines will impact over 10,000 acres of wetlands and 260,000 feet of streams. The AEIS acknowledges (p.5-1) the no net loss objective of the Federal Wetland Compensatory Mitigation Rule (CMR), stating that the regulations in the CMR are designed to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function. So the AEIS recognizes in principle that for wetland reclamation/mitigation to be compliant with the CMR, it must achieve no net loss of both wetland area/stream length and wetland/stream function. Increasing the post-mining acreage of wetlands and post-mining lengths of streams relative to that prior to mining are not sufficient mitigation by themselves. 2. After its early acknowledgement of the importance of no net loss of wetland/stream functions, the AEIS then fails to evaluate the proposed mining impacts to wetlands and their subsequent mitigation in the context of the CMR. The AEIS contains scattered references to provisions of the CMR, but for the most part the AEIS analysis defaults to the much less rigorous state mitigation standards, stating that the wetland impacts will be addressed through the state reclamation requirements of acre for acre replacement plus additional habitat enhancements or creation requirements, which have not yet been specified for any of the proposed mines. The AEIS fails both to point out and then to discuss that the applicable reclamation standards the USACE must adhere to are those of the Federal Wetland Compensatory Mitigation Rule (33 CFR 332.5), not the state wetland reclamation standards. (It should also be noted that in Florida, 1:1 mitigation is allowed only for mining, all other prospective wetland impacts must comply with more rigorous mitigation standards.) By defaulting to the state standards, the AEIS greatly lowers the bar for what wetland mitigation is required. By omitting any discussion of additional mitigation measures specific to the four mines, the AEIS has legitimized a process in which the net effect of mining on wetland acreages and functions will remain | Included in summary response above. |

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| | | | undisclosed and unreviewed until after the EIS has been finalized. To allow an agency action to proceed without proper prior evaluation of its environmental impacts is contrary to the whole purpose of the NEPA evaluation process. At the least, the AEIS should admit that until detailed wetland reclamation plans are presented and reviewed for each of the proposed mines, it is not possible to independently determine if the mines will be in compliance with the CMR. It goes without saying that an applicants assertion that they will comply with CMR requirements without disclosing specifically how they intend to do so is not enough. 3. | |
| 000000542-90 | Percy Angelo | Private Citizen | The DAEIS fails to consider the comments of Brian Winchester about the difficulties of restoring wetlands-On April 22, 2011, Brian Winchester, an expert in wetlands evaluation and restoration, submitted comments in the scoping process on behalf of ManaSota-88 and 3PR. Unaccountably the DAEIS and the Corps records fail to acknowledge receipt of those comments and fail to address the important issues raised by Winchester. Those comments are submitted again as Ex. 3. Winchester tied his comments directly to the 1990 Memorandum of Understanding between EPA and the Corps about how wetland mitigation must be accomplished and to the Wetland Compensatory Mitigation Rule (CMR), effective June 9, 2008. 33 CFR Part 332. He noted that there are serious questions whether industry standard mitigation practices are meeting those rules, and good reason to believe they are not. Winchester noted that the Corps in the DAEIS should evaluate which wetland mitigation approaches being used by the mining companies actually comply with the CMR, which requires a watershed approach, an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed. 33 CFR 332.3(c)(2)(i). Under the CMR the landscape position of reclaimed wetlands and the protective function of non wetland riparian areas such as buffers must be considered. Under the rule reclaimed wetlands must exceed the wetlands lost in terms of both area and function. More protective mitigation ratios are required and there is question whether they are being applied. Wetland mitigation | Included in summary response above. |

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| | | | must be in kind, meaning that the wetlands replaced must be of the same kind and function of those lost. (In the past the only distinction has been between forested and non-forested wetlands). Winchester notes that there is no data that reliance on the FDEP wetland reclamation rules meets these CMR standards, including the time lag necessary to achieve similar community and physical structure. | |
| 000000542-91 | Percy Angelo | Private Citizen | The CMR has special standards for difficult to replace resources. And special attention is paid to the need to assess whether systems such as perimeter recharge ditches and injection wells to protect wetland systems actually work to prevent dewatering and protect headwater bayhead and other seepage wetland systems. Winchester points out that historic practice has been to allow the permittee to come up with a detailed mitigation plan after permitting, in direct contravention of 33 CFR 332.4(c)(1)(i) and 332.7 (c)(7). This prevents any objective evaluation of whether mitigation will work until after mining is underway, or at least permitted, avoiding the intent of the CMR as well as any real evaluation of mitigation success. Similarly, Winchester states the DAEIS needs to evaluate whether the performance standards specified in permits are objective and verifiable, 33 CFR 332.5(a), and are actually working to insure a gain in wetland structure and function, and whether sufficient monitoring is required over time. Are released wetlands in fact providing a gain in wetland area and function. He says that neutral empirical evidence suggests they are not. | Included in summary response above. |
| 000000550-8 | POW & LBC, James Cooper | Environmental Organization | The Corps is supposed to be on board in NOT destroying wetlands. The ACOE on December 24, 2002, signed up with the EPA and several other Federal Agencies for a 17 point: National Wetlands Mitigation Action Plan (NWMAP) for 2003. This began a series of improving and implementing the key principals of a National Plan of no more loss of wetlands, to which the ACOE is a signatory. A fundamental objective of the Clean Water Act Section 404 program is that authorized losses of wetlands and other waters are offset by restored, enhanced, or created wetlands and other waters that replace those lost acres and their functions and values. (NOTE: It is far more inclusive than acres only, it must include functions and values, especially when it comes to aquatic jurisdictional | Included in summary response above. |

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| | | | wetlands. Yet, unfortunately these key items appear to be totally ignored in the CFPD DAEIS? The NWMAP clarified how wetlands MUST be treated. There is a clear prioritization process, which is NOT followed in the CFPD DAEIS. NWMAP states: Importantly, the regulatory program provides: (1) first, that all appropriate & practicable steps be taken to avoid impacts to wetlands and others waters (For DAEIS mines - Charlotte Harbor watershed), and then (2) that the remaining impacts be minimized, (3) before determining any necessary compensatory mitigation to offset remaining impacts. Unfortunately, the DAEIS fails to take this important priority step sequence seriously, or it would not have impacted nearly 50% of USACE Jurisdictional Wetlands. This mitigation sequence parallels that which is embodies in the National Environmental Policy Act governing the review of other federal actions as well. Compliance with these mitigation sequencing requirements is an essential environmental safeguard to ensure that Clean Water Act objectives for the protection of the nations remaining wetlands are achieved. Why are the Tampa ACOE & this DEIS out of step with national policy: No Net Loss of Wetlands? . The good news is that by 2005 the Corps was able to develop analysis within the watershed context and identify criteria for making compensatory mitigation decisions in this context. Then, by 2006 a better defined Federal CFR Rule on Aquatic Wetlands Mitigation was drafted using the Watershed Approach and the ACE signed on to participate. | |
| **MIT-6** | | | **These comments question why the draft AEIS did not adequately address the issues of reclamation deficits and the slow rates of reclamation for current and past mines. Some comments also address the issue of reclamation compliance by phosphate mining companies, including financial responsibility requirements for reclamation. A specific comment requested more information on upland reclamation and state reclamation techniques that produce better results including xeric habitats. Another commenter noted that reclamation when finished would result in reduced number of acres and streams based on functional criteria.** | **Reclamation as required by state regulations is beyond the regulatory authority of USACE. Chapter 5 of the final AEIS has been revised to provide more discussion of reclamation of mandatory and non-mandatory phosphate lands; the rate of reclamation; the financial responsibility requirements for reclamation; and State reclamation monitoring/compliance inspections and associated enforcement actions for mandatory phosphate mining lands. Additional information on reclamation of lands to support xeric habitats, scrub habitat, and protected species is provided in chapter 5.** |

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| 000000198-2 | Clarke Keller | Private Citizen | The 350,000 acres that were mined prior to 1975 for the most part have been ignored. These are the biggest impacts up there because it's been a moonscape. None of it has been revegetated or mitigated to any real extent. | Included in summary response above. |
| 000000369-30 | Manatee County, FL, Ed Hunzeker | County Government | 9. Section 4.11.11, Reclamation: Manatee County Scoping letter recommended an evaluation of reclamation techniques and we stress that this request has not been met. There has been no evaluation of xeric habitat reclamation or other upland reclamation for listed species and little evaluation of wetland reclamation. We disagree that the USACE rely on State reclamation requirements. Some of the reclamation techniques are not required by State law or rule at this time. The lack of evidence does not support continuing on the status quo process. If there are certain reclamation techniques that produce superior quality, then those should be included in the Final AEIS Mitigation Chapter. Additional comments are provided under the Mitigation Chapter below. | Included in summary response above. |
| 000000369-33 | Manatee County, FL, Ed Hunzeker | County Government | 5. Section 5.9, Page 5-24, Lines 12-22: Has any research been done on the reclamation of xeric scrub habitat other than the fact that it can support gopher tortoises? There are many rare and endemic plants and animals found in scrub that have very specific needs which may or may not survive on reclaimed scrub. Pressures from habitat fragmentation coupled with the temporal loss of functions and values on reclaimed scrub may have cumulative impacts on these species. | Included in summary response above. |
| 000000371-30 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "the cumulative impact of the four proposed new mine projects would be direct impacts on approximately 10,000 acres of Waters of the United States, and an additional 260 acres of other wetlands protected under the rules applicable in Florida. In terms of linear feet of projected cumulative loss of stream habitats, the total estimate for the four projects combined is 260,000 feet". "Individual permit review processes which are running in parallel with the time period of the AEIS. When they are finalized, it will be clear that the final targeted acreages and linear distances of impact will be exceeded by the reclamation and restoration acreages, and the applicable linear measures of stream habitat. Elements of those mitigation plans will address the translation of lost acreages to ecologically significant functions lost during the | Included in summary response above. |

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| | | | applicable mining durations." Based on past performance under current State of Florida rules, the functionality of reclaimed and restoration acreages have not always met that of the originally mined wetlands and streams. Why doesn't the ACOE require as part of the AEIS their own standards to meet federal (EPA) functional criteria for mined wetlands and streams in the study area? | |
| 000000542-51 | Percy Angelo | Private Citizen | Mining in the past had a terrible environmental record. Before 1975 no reclamation was done and vast areas of the northern part of the CFPD have been left as a moonscape. As discussed below, many former mining properties are now Superfund sites due to the exposed mine tailings and their contaminants, including radium 226. | Included in summary response above. |
| 000000542-98 | Percy Angelo | Private Citizen | Unfortunately, even if one were to assume successful reclamation, despite the evidence it doesn't exist, the moonscape period is usually much longer than assumed by the AEIS. The State Financial Responsibility Report (2010), see Ex. 14, states that Mosaic, for example, has substantial reclamation deficits at Four Corners/Lonesome (-7325 acres), South Fort Meade Polk County (-1925 acres), Hookers Prairie (-103) and Fort Green (-1993 acres) and CF has a deficit at South Pasture (-1014 acres). These deficits, periods of moonscape after mining, are in addition to the allowed period of mining and reclamation, and in addition to the formerly mined lands that will never be reclaimed because the state has taken the reclamation funds for these lands and used them instead for gypstack emergency response. There does not appear to be any estimate in the DAEIS of the total amount of moonscape acres. The troubling graph at 4-191, Ex. 1, may actually represent an optimistic view of the future since it apparently excludes nonmandatory acreage and assumes timely reclamation. | Included in summary response above. |
| 000000542-99 | Percy Angelo | Private Citizen | Any objection that this permanent destruction of the land during the nonmandatory period was done by others must fall on deaf ears. An EIS must look at past impacts. And we know that in large measure the mining companies of the past have been merged into the companies of the present and future. See Notes to ROR Reports, Ex. 15. There is no unfairness in following the mandate of NEPA that the current mining plans of Mosaic, which has bought up almost every | Included in summary response above. |

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| | | | active miner in the CFPD except CF, must take account of the past damage done by CFPD miners. | |
| 000000542-100 | Percy Angelo | Private Citizen | The State Rate of Reclamation Report for 2010, Ex. 15, states that 71% of mandatory mined lands have been reclaimed, though not released. Using the data supplied, however, the actual percentage appears to be 67%. Further only 38% have been reclaimed and released. Some of this reclamation is for industrial use; the amount is not disclosed. Since the period of required reclamation is 35 years (1975 to 2010), it is clear that a reclamation rate which still shows about 1/3 of the land mined since 1975 unreclaimed, even under the relaxed definition used, is abysmal. Individual mine data gives the lie to the idea that the system of reclamation works. The Agrifos Nichols mine, now owned by Mosaic, has only 41% reclaimed and released, even though mining ceased some time ago. Pebbledale, also a former mine, is 37%. Mosaics Fort Green and Hookers Prairie mines have only 29% each reclaimed and released. Four Corners/Lonesome is 12%. CF South Pasture is 0%. Id. | Included in summary response above. |
| 000000550-6 | POW & LBC, James Cooper | Environmental Organization | MAJOR FLAW: All PAST Phosphate Mine Operations known impacts in this DAEIS are Not properly listed by name and analyzed for their known cumulative impacts on the watersheds per NEPA rules, during the mining of the future the 4 future new mines cited. The Army Corps and the industry proponents of this DAEIS are well aware that here are many mines falling under the FDEP 1975 Mandatory Mine Reclamation Rules which are NOT included in this study. Why? Upon review the FDEP internet web site I learned there are 28 Phosphate Mines in FL within the CFPD listed on their Post-1975 Mandatory Rate of Reclamation - tracking list, which requires 100% post-mining reclamation for each and all of these phosphate mines in the CFPD. Sadly, a review of in June 2012 shows the most recent FDEP ROR Report is a Dec 31, 2010. That latest FDEP: Mandatory Post 1975 Rate of Reclamation ROR Report list reveals (Attach _____): 16 Total Industry strip mines in the CFPD, mining since 1975 still have NOT attained FDEPs required goal of 100% Total Reclamation after strip mining. UNACCEPTABLE! Specifically: ? South Pasture (CFI- 6,083 acres): Began 2001 & still only 24% reclaimed. ? South Ft Meade (Mosaic 10,701 acres): Began | Included in summary response above. |

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| | | | 1995 & still only 35% reclaimed. ? Wingate Creek (Mosaic 1,005 acres): Began 1981 & still only 43% reclaimed. ? Four Corners/Lonesome (Mosaic -24,769 acres): Began 1985 & still only 47% reclaimed ? Hopewell (Mosaic 2,575 acres): Bega1989 & still only 58% reclaimed. ? Ft Green (Mosaic-22,245 acres): Began 1975 & still only 66% reclaimed. ? Ft Meade (Mosaic 9,214 acres): Began 1975 & still only 69% reclaimed. ? Hookers Prairie (Mosaic 9,214 acres): Began 1977 & still only 71% reclaimed. ? Nichols (Mosaic 4,951 acres): Began 1975 & still only 72% reclaimed. ? Norelyn/Phosphorus (Mosaic -8,460 acres): Began 1975 & still only75% reclaimed. ? Clear Springs (Mosaic 5,272 acres): Began 1975 & still only 78% reclaimed. ? Payne Creek (Mosaic 9,756 acres): Began1975 & still only 87% reclaimed. ? Big Four (Mosaic- 4,175)): Began 1978 & still only 89% reclaimed. ? Haynesworth (3,234 acres): Began 1975 & now 98% reclaimed. ? Kingsford Complex (Mosaic 14,475 acres): Began 1975 & now 98% reclaimed. HOW TO CORRECT this Major FLAW: This DAEIS must include all 16 of these above cited NOT 100% Reclaimed CFPD Phosphate Mines in the yet to be revised DAEIS summary and analysis of PAST Cumulative Impacts, because these mines are each & all still trapping surface waters which are NOT yet recorded & properly analyzed for NEPA rules impacts downstream to Charlotte Harbor anywhere in this DAEIS. | |
| 000000550-7 | POW & LBC, James Cooper | Environmental Organization | MAJOR FLAW: Improper evaluation of NEPA Cumulative Impacts in the CFPD: All of the totally omitted mines: (1) The 16 known Past mines omitted (On the FDEP ROR list) - cited above), (2) plus the 6 Current Mines cited above (also omitted in the current DAEIS), (3) Plus all 6 known Future Mines Cited (yet only 4 are now presently cited as future Mines) above should be all (Total 26) listed and linked together in massive Excel spread sheet, along with any CSAs associated with them & still not reclaimed & any Gyp Stacks associated with them or to be built which are toxic waste areas & cannot be reclaimed. This CFPD Master Phosphate Mines Cumulative Impacts analysis Sheet should indicate: Acres of are impacted each year for the next 60-70 years: based upon the time they begin mining until they cease mining & attain 100% reclamation. This Master List also needs to be broken down by precise names of streams, | Included in summary response above. |

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| | | | wetlands, creeks & rivers & Watersheds impacted in Watershed Groups (Like the Peace River Watershed & the Myakka River Watershed, etc.) - To fully enable proper NEPA Watershed Approach scientific evaluation of each years Y& each season with that specific years impacts. This initial Master CFPD DADEIS Mine List (26) identification and labeling effort by geographical location is essential to establish a baseline & realistically attempt to best identify & understand all of the potential primary & secondary Cumulative Impacts (NEPA rules) of phosphate mining on this entire region, to ensure the health & sustainability of all ARNI resources within the CFPD and downstream in Charlotte Harbor remain both healthy and sustainable during all phases of this gigantic Final Mine Out of the Southern CFPD which will encompass more than 90,000 Total mined acres and last more than 50-70 more years. NOTE: The DAEIS indicated (Page 1-19) only counting the 4 future mines listed in this DAEIS equates to 12,132 acres of Wetlands destroyed & 86 ½ miles of Streams destroyed. This is critical As the Phosphate mining industry is about to open an entire new chapter in their Book of Florida Mining. It is well documented that the Phosphate Industry is about to kick off their last Florida Phosphate major mining expansion lasting until 2070 or later: At least 6 new mines in the South areas of Manatee, Desoto & Hardee counties with drag lines ripping out soil down to 50 feet. REMINDER: This new DAEIS mining will be in far closer proximity to Charlotte Harbor than ever before. This Final Phase of intense strip mining in the fragile, delicately balanced watersheds of the South Bone Valley, which contain the headwaters of our 3 major water sources for drinking and maintaining Charlotte Harbor: the Peace River, Horse Creek and the Myakka River, poses a very real and dangerous threat to the health & sustainability of Charlotte Harbor If the ACE does not strictly adhere to NEPA & EPA rules & avoid impacts to any ARNI Wetlands or streams & creeks. It is clear this final Mine Out phase of Phosphate Strip mining in the Southern CFPD will trigger: a monumentally vast and unwanted negative change to the geology & hydrology, if not done with the very best use of available neutral scientists, the best available scientific hydrology data, and the best adherence to NEPA rules, it will also negatively impact the economy. The new reality is that | |

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| | | | entire South CFPD region about to be mined will never be the same afterwards (after strip mining) despite reclamation efforts, if this DAEIS is not done properly, following all EPA & NEPA watershed approach rules due to the vast & dangerous cumulative impacts which phosphate strip mining brings with it (which is well documented) over the next 50-70 years. | |
| 000000550-20 | POW & LBC, James Cooper | Environmental Organization | BONDING Is a Key Issue & DAEIS FLAW to ensure the reclamation process is completed. The need to: (1) Reclaim - any impacted Wetlands, or (2) Compensate - for any Loss of Wetlands acreage is a key part of the Clean Water Act. Per the former 2003 Ona Mine ACE: DEIS, This is a very long term: 10 to 25 year process. If you consult my DAEIS Comments on Page 3 (previously) in the CFPD reclamation in some cases 100% reclamation still not been attained. This is disgraceful. RECOMMENDATION: The ACE should seriously look at holding off on issuing any NEW CWA permits until each parent mining firm attains a minimum average total reclamation rate for all their owned mines of at least 80%. This is an industry Achilles heel! It needs to be more closely monitored (State DEP). To assist the monitoring process State FDEP and County DEP Staff should include a realistic Environmental Reclamation Minimum 5 year Monitoring Plan in their local planning and zoning land use Management Plans. Suggest implementing a science based Citizen Mine Oversight Group for each newly impacted DAEIS County) The present very long-term mines and wetlands reclaiming timeframe is TOTALLY UNACCEPTABLE! | Included in summary response above. |
| 000000550-22 | POW & LBC, James Cooper | Environmental Organization | Financial Responsibility & Accountability by Miners over the next 50 plus years. How can the state, counties or public to be sure the CFPD DAEIS (Mosaic & CFI) will not walk away, before all future CFPD Strip mining reclamation is complete; all functionality for streams, wetlands & soils is fully restored to the best levels possible and accepted by FDEP and the various Counties where the mining occurs is a real problem. Likewise, no contract is required to be signed by the HQ of each mining firm to guaranty a Bond to account for the potential problematic possibility in the future of costly Gypstack final reclamation & restoration? No one can forget the extremely costly (to Taxpayers) $200 Million - Piney Pont Gypstack overflow disaster in Manatee County. This is a vital | Included in summary response above. |

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| | | | issue. BONDING at reasonably high limits for each mined area, CSA & Gypstack is the only real Insurance for the state, the region and the impacted counties to ensure that full reclamation & for Gypstacks Costly Federal rules Toxic restoration actually happens & meets the agreed upon standards. No County or the State can afford to pick up financial tab for the mess: like the Piney Point Plant: after a known environmental destroyer (phosphate mining) leaves toxic environmental degradation, which requires very costly cleanups & instead - simply declares bankruptcy, or sells out to a foreign investor? The public has a right, (and we depend on our elected officials to stand up for us) to be protected from this potential ecological & financial nightmare. BONDING is a MUST! The DAEIS omits any Bonding options or any realistic protection to ensure full reclamation happens! | |
| **MIT-7** | | | **These comments address the issuance of reclamation variances by the State to phosphate mining companies and the associated delays in reclamation that result.** | **Reclamation as required by state regulations is beyond the regulatory authority of USACE. Chapter 5 of the final AEIS has been revised to address the issue of reclamation variances, including FDEP's policies on issuance and management of variances; the number of variances issued; the circumstances for which variances are issued; and security posting requirements.** |
| 000000542-101 | Percy Angelo | Private Citizen | As explained in our Scoping Comments, April 20, 2011 letter, at 10, and in the Angelo letter of April 19, 2011, the mining companies and the state make the situation worse by seeking and providing variances to allow delays in reclamation obligations. A list of variances was supplied in those comments, as well as a study by Professor Nora Demers showing the prevalence of variance requests and grants. In fact, we are not aware of any variances which have been denied, indicating that the state standards are simply irrelevant in considering the periods of mining impact. Variances are frequently required due to lack of fill material for reclamation, until more mining is done. This suggests that an environmental Ponzi Scheme is at work, one must continue to mine in order to have material for reclamation. What will happen when mining comes to an end and there is not enough sand to fill the last mine? As noted above, the DAEIS assumes that soils for reclamation will be set aside. 4-164. In fact, as revealed in the variance requests, there is | Included in summary response above. |

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| | | | frequently insufficient soil for reclamation, particularly topsoil. Again the DAEIS assumes an issue that is contradicted by the facts. | |
| 000000542-172 | Percy Angelo | Private Citizen | In a previous filing requesting the preparation of an EIS for the South Fort Meade extension mine we have noted the number of variances and other exceptions allowed from mining permits and reclamation plans. These exceptions should be assembled to determine what impacts they should have on permitting decisions, i.e. Corps mining decisions have historically cited and relied on state permitting and state regulations to determine that no further review is needed in certain areas, but it is not acceptable to rely on the protections allegedly available from state permitting decisions where the data shows that those permits will be readily amended or variances granted or exceptions made through a consent order process. The State of the Science Conference held by USEPA in connection with your scoping process included a presentation by Professor Lora Demers regarding the over 100 variances and waivers she had identified. A copy of that material should be incorporated in your AEIS record. See Demers presentation included in Angelo April 19, 2011 transmittal. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000192-8 | ManaSota - 88, Glenn Compton | Environmental Organization | Additional recommendations for inclusion in the AEIS:1.Gypsum stacks and gypsum ponds, radioactive dumps if you will. contain thousands of curies of radium-226 and have been shown to exceed EPA standards for radioactive materials: cadmium. chromium and pH. An inventory of existing gypsum stacks and the projected amount of phosphogypsum disposed of should be included in the AEIS.2. All air emissions associated with phosphate mining, processing and waste disposal that could reasonably be anticipated and all proposed emission points need to be included in the AEIS.3. All existing Title V Air Permits needs to be referenced. It should also be mentioned that cumulative effects of all mining operations presently permitted in our region plus the proposed mining do not appear to have been considered. Additionally, the impact of the daily generation of electricity, which will produce further deterioration of air quality, does not appear to have been considered. To fully | Chapter 5 of the Final AEIS has been expanded to provide additional discussion of reclamation. This section now provides more information on the practice of reclamation, how reclamation differs from mitigation/restoration, and the regulatory reclamation requirements of lands mined for phosphate in Florida. Chapter 5 of the Final AEIS does discuss the restoration goals/requirements of mitigation and reclamation, and how restoration of habitat quantities and functions are conducted, monitored, and regulated. The Final AEIS also has clarified the procedures under which Gypsum Stacks are regulated and managed and why they are outside the scope of this AEIS. Additional discussion of air permitting and relevance of air quality impacts and permitting to the AEIS evaluation has been provided in Chapter 4 of the Final AEIS. Electric power generation for draglines and other operations are not expected to change substantially since the proposed new operations are largely replacing other mines as |

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| | | | grasp the environmental impact, reference should be made to the tremendous amount of energy required by the phosphate industry. No precise figures are available for electrical use. The Increase in mining activities has undoubtedly led to the increase in request for new power plants.4. Toxic Release Inventory5. The AEIS should identify the steps that should be taken by the industry to reduce radon daughter and gamma radiation to pre-mining background levels; therefore not leading to significant land use restrictions and adverse health impacts.6. Radiation standards for post reclamation mined lands need to be strengthened. Post reclamation lands must not be permitted to exceed pre-mining, unenhanced natural background soil radium and gamma levels. Radiation risks are not evenly distributed. Proximity to the mine site, wind direction, and other factors will subject some to much higher risks than others. Additional discussion is needed to address those instances when post reclamation lands exceed pre-mining radioactive concentrations.7. Post-mining land reclamation requirements need to be strengthened. Reclamation is not the same as restoration and this distinction clearly needs to be made. It is important to specify for all tributary's that restoration will be performed, not reclamation or mitigation. Restoration requirements for all lands within the 100 year flood plain and all tributaries should be included. | they complete operations with the net effect being approximately similar electricity demand over the life of the proposed mines. Additional discussion of the effects of radiation related to mining has also been included in the Final AEIS. |
| 000000197-1 | EcoSwift, Allain Hale | Environmental Organization | And we're concerned with the Keys Mine, which is in the big slough, drying up the water supply to the Myakkahatchee Creek which originates in the big slough. And a deal has been worked out with Mosaic that we get -- when the mine is finished, we get the hole and that becomes the reservoir for the City of North Port's drinking supply. Right now, the Myakkahatchee Creek comes down from the big slough, originates in a dammed-in area. That is the major water supply for North Port as it sits right now. I want to know if North Port's commissioners have bought into this idea of buying a hole for a new reservoir. Has this idea ever been successfully floated before and is it in use? I haven't heard of any. So I wonder if you bought into a promise that can't be kept. Because everybody knows that the -- the -- the leftover mined-out holes, the water is undrinkable. It's without oxygen. So that's my question.MR. HALE: There's nothing in | The potential direct and indirect effects of this mine is addressed in the Final AEIS as a foreseeable future mine. The potential effects of this mine on the Myakkahatchee Creek and the drinking water supply for the City of North Port is beyond the scope of the AEIS as the mine plan for this project has not been developed. However, this issue would be addressed by Mosaic, the pertinent regulatory agencies, and the City of North Port during the planning and permitting phases of the mine. |

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| | | | statutory language, no agreement's been signed or anything that this will happen. Its just a theory of what could be done. But there's no agreement that's been signed that I know of. And I was wondering about that, if this should be in the AEIS draft report that the -- this would be how -- how the completed Keys Mine will be utilized after -- after it's through with and that will become the reservoir for North Port . | |
| 000000272-51 | Sarasota County, FL, Christine Robinson | County Government | The EPA restrictions may not preclude that phosphogypsum could be returned in blended or non-blended form to mined lands if the reclaimed lands were restricted in perpetuity from residential or commercial development. Possible appropriate uses for or development upon lands reclaimed with phosphogypsum would be parks, cemeteries, mitigation banks, or conservation lands. Omitting from the DRAFT AEIS the environmental aspects of current and continued phosphogypsum stacking appears would result in a bias against the No Action Alternative versus the other alternatives list in ES.5, of the DRAFT AEIS. | Current regulations prohibit the use of phosphogypsum soils in reclamation, development, agriculture, etc. Such soils by regulation must remain stored in lined gypsum stacks and cannot be used for other purposes. |
| 000000272-62 | Sarasota County, FL, Christine Robinson | County Government | 5-2 Describe the methodology for Modified WRAP used in the Mining Industry and how this method compares with WRAP and UMAM used by the federal, state and local permitting agencies. | The 2008 Compensatory Mitigation Rule states that where appropriate functional assessment methods are available, such methods should be used where practicable to determine how much compensatory mitigation is required. The USACE neither prescribes nor prohibits any specific numeric functional assessment. The USACE Jacksonville District has determined that both UMAM and WRAP are acceptable functional assessment methods that can be used by applicants in developing compensatory mitigation plans. Additional information about IMC WRAP has been provided in the Final AEIS. |
| 000000272-63 | Sarasota County, FL, Christine Robinson | County Government | 5-3 While Section 5.4.1 indicates that a bay swamp is trending toward success as determined by Hillsborough County Environmental Protection Commission, it does not describe the wetland success status by ACOE and FDEP. | The referenced bay swamp mitigation site (Alderman Creek) is being monitored under a FDEP Permit. Chapter 5 has been expanded to discuss the mitigation success criteria established for this site under the FDEP permit and the results of the most recent (2012) monitoring event conducted for this site under the FDEP permit. Considerable additional information on bay swamp mitigation success has also been added to Chapter 5, including the results of an independent study of the success status of several bay swamp mitigation sites created by the phosphate industry, including the |

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| | | | | Alderman Creek site. |
| 000000272-64 | Sarasota County, FL, Christine Robinson | County Government | 5-4 The chapter should clarify the relation between the Clean Water Act, Section 404 and the State Rule 62-330 F.A.C. It should clarify the necessity for including state regulations in a federal review. A sequencing/process was not included in this section that communicates federal regulations required for State permitting guarantee of water quality protection when a mining permit application is reviewed by ACOE. The Draft AEIS needs to be revised to describe this required permitting relationship. | Discussion of the state Section 401 water quality certification and its relation to the federal Section 404 program has been added to Chapter 5 in the Final AEIS. |
| 000000272-67 | Sarasota County, FL, Christine Robinson | County Government | Each alternative presented is only a Yes/No alternative on proceeding with the individual mine projects presented the individual projects need to be evaluated based on various scenarios of possible reclamation plans for each mine | Reclamation is a state mandated responsibility and outside the authority of the USACE and the scope of this AEIS. The specific plans for reclamation are included in the Applicants' applications. The discussion of mitigation considerations and a general review of reclamation under the FDEP mandatory reclamation rule are discussed in Chapter 5. |
| 000000272-103 | Sarasota County, FL, Christine Robinson | County Government | 4.11.11 Reclamation - No discussion of effects of reclamation AEIS report simply states that reclamation falls under FDEP there should be some discussion of how choice of reclamation method(s) affects future groundwater recharge and baseflow to streams. | Comment acknowledged. The AEIS Appendix D groundwater modeling has been updated to incorporate the surfical and intermediate aquifers into the simulation. The reclamation in the Southern Extension of the CFPD will be primarily sand tailings reclamation because of the increased percentage of sand tailings in the matrix. The sand tailings base in the mine cuts will provide an active recharge and reestablishment of the surficial aquifer base flow to contiguous unmined wetlands and streams. |
| 000000273-4 | Diane Desenberg | Private Citizen | What is missing from this report is a mechanism for tying the proposed impacts to the actual impacts in order to hold the mining companies accountable. Please include such a mechanism. | A primary goal of the AEIS is to support USACE decision-making by identifying and assessing potential impacts associated with a range of alternatives. To facilitate an assessment of potential individual and cumulative impacts, the Final AEIS has considered actual impacts that have occurred in the past to the extent that past impacts that are measurable. Permit applicants will be held accountable for minimizing and mitigating impacts through a Record of Decision (ROD) and federal, state, and local permits. The ROD will state the permit decision, alternatives that were considered and evaluated, whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. Under NEPA guidelines, a monitoring and enforcement program for mitigation will be adopted and summarized |

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| | | | | where applicable. Permits will also impose conditions for various mitigation requirements. |
| 000000277-6 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | Part of the mining process is reclamation. To make whole the affected area and return it to pre-existing conditions. How does the AEIS address the loss of aquatic species to mining operations? Stream reconstruction does not equate to biota reconstruction of the aquatic system. Figure 12 (appendix B) appears to indicate a downward trend in macroinvertebrate community assessment over a 5 year period. There is no indication that increased mining will restore the macroinvertebrate community assessment ratings. Overall fish data for the Peace River Watershed have indicated a decline in the number of species present over time due to "alteration or elimination of habitat" and decline in water quality or quantity. (PBS&J, 2007) Increased mining activity will further stress this burdened system and further pressure the freshwater source of Charlotte Harbor. | The Final AEIS acknowledges that aquatic biota within streams that are mined are adversely affected, and eliminated in the portions of streams that are entirely removed by mining. The Final AEIS refers to the PRCIS, where it is noted that these fish habitat impacts have occurred over a long period of time as a result of agriculture, urban development, and mining. Chapter 5 of the Final AEIS acknowledges that early stream restoration was largely unsuccessful due to inadequate stream design techniques and that restoration technology has improved over time, with significant advances made since the 1990s including examples in the text. With respect to Figure 12 in Appendix B, the interpretation of the figure in Appendix E in the Final AEIS clarifies that SCI scores for the upstream station remained in the "healthy" range for this entire study period as did those for the most downstream station. Impacts at Station HSCW2 were attributed to the influence of a large wetland system adjacent to this monitoring location. None of these patterns appear related to phosphate mining discharges from the two outfalls in the upper portion of the Horse Creek watershed. |
| 000000280-20 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES 7.1 Ecological Resources P. 31, line 12 That is the short term loss of 50 miles stream length. All of these streams provide base flow for the receiving waters. The loss of base flow for a period of several decades (short term) is not conducive to sustainable conditions. While the mitigation plans address the acres lost/restored, they do not address lost groundwater flow or the restoration of same to receiving waters. Created wetlands are not equivalent in value to connected wetlands contributing to base flow. The acreage of constructed wetlands is not equivalent to natural connected wetlands, unless there is a maintained connection (groundwater base flow) to the receiving waters. | It is acknowledged that the removal of streams by mining affects base flow to receiving waters. The impact that mining has on base flow is temporary on a time scale that spans the period when the stream/wetland is removed to when the system is restored/replaced, which varies depending on the system type. As discussed in the Final AEIS, mining and reclamation/mitigation at a given mine are conducted incrementally in sequence in accordance with the overall mine plan. Restoration/replacement of streams/wetlands is initiated after each mine block is mined, not all at once after the entire mine site is mined. This "rolling process" allows stream/wetland restoration/ replacement to occur incrementally over the course of the entire life span of the mine. As such, the base flow impacts to streams impacted by the four proposed mines would not occur all at once. Instead, the impacts would occur incrementally over the combined life spans of the four mines (approximately 50 years). Because the streams would be incrementally impacted and |

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| | | | | restored/replaced throughout this entire period, the overall impacts to base flow would be significantly less in magnitude than if the 50 miles of streams were all impacted at once then all restored/replaced at once. |
| 000000280-50 | Lee County, FL, Roland Ottolini, P.E. | County Government | 5.0 Mitigation 5.6 Mitigation Plans for Currently Proposed Mines P. 5-19, Tables 5-1 - 5-4 Question: Do the wetland acreages listed as reclaimed include open water lakes? Also see comments for reclaimed wetland release schedule in Section 4.5.2 above. Question: Gypsum stacks are known to create acidic conditions in downstream watersheds, increase concentrations of arsenic, lead, cadmium, chromium, fluoride, zinc, antimony, and copper to concentrations known to be harmful to human health as well as introducing radioactive material to the environment that can affect surface and ground water as well as air quality. Will there be a plan in place for proper disposal or containment of the gypsum stacks? | None of the wetland reclamation acreage for the Wingate East Mine shown in Table 5-3 includes open water lakes. The wetland reclamation acreages for the Desoto, Ona, and South Pasture Mines shown in Tables 5-1, 5-2, and 5-3, respectively, include open water lakes; however, the lake reclamation acreages represent a relatively small percentage of the total wetland reclamation acreage for each of these mines. Phosphogypsum stacks are associated with fertilizer plants, not the mining or the beneficiation plants. Phosphogypsum stacks are not proposed with the Applicants' future mines. The Final AEIS has clarified the regulatory management of gypsum stacks and why they are outside the scope of this AEIS. |
| 000000281-16 | Sandra Ripberger | Private Citizen | 3.3.6 Wildlife and Protected Habitats The AEIS includes mention of Listed Species but does not include research to indicate that wildlife populations will survive undiminished despite mention that egrets like clay settling ponds. Bird studies are said to show similar totals for mined and unmined sites but twenty-eight species are notably less present at mined areas. Studies are cited as reclamation sites mature over time but the neither the studies or sites are identified. The number of reptile species are reported to be positively correlated with the maturation of the site but the amphibian richness not found to be positively correlated. Durbin et al. (2008) The study says, It takes time for such areas to support wildlife communities resembling those of unmined. Critical listed species do not have time to recover from the displacement and destruction that mining causes. | The findings of these studies have been summarized in the Final AEIS, with focus placed on presenting the most relevant information. The findings indicate that wildlife utilization is correlated to habitat diversity, which is largely influenced by how the reclamation was conducted and the maturation of the site. While early reclamation efforts did not provide adequate habitat diversity for wildlife, recent efforts have strived to increase the habitat diversity that is created. Durbin et al (2008) concludes that site maturation influences the site's utilization by wildlife based on the patterns observed and not on studies of how the reclaimed sites have evolved/matured over time. Additional discussion has been included in Chapter 4 of the Final AEIS on the potential effects that mining has on wildlife and listed species. The specific conservation practices implemented by phosphate mining companies for wildlife and listed species are discussed in Chapters 4 and 5 of the Final AEIS. |

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| 000000281-22 | Sandra Ripberger | Private Citizen | 4.3.2.3 4-39 The Wingate East tract was formerly known as the Texaco tract. According to the AEIS, the 774 acres of wetlands there include wetlands of high quality; 52% of the site has high aggregate CLIP ratings. Despite this, 500 acres of the area was separated, against the stated purposes of the AEIS, and submitted for approval to Manatee County. 50 acres of wetlands on this part are designated Priority 1 according to CLIP ratings on your map. A significant portion of the wetlands remaining are to be held in escrow according to agreements made with Manatee County when the Altman tract was approved, a reversed decision by the Manatee Commission after a suit by Mosaic. | USACE determined that the approximately 500-acre tract known as "Wingate Extension" contained no waters of the United States. Therefore, USACE has no regulatory authority over the parcel, and no USACE permits are required to mine the parcel. |
| 000000349-2 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Page = 8 Line = N/A Issue: AEIS states: "40% of the reclaimed land within 8 years of reclamation." Arbitrary assumption. Comment: Is the use of 8 years based on the experience that has been observed in Central Florida where reclaimed phosphate mining lands have returned to other uses? If not, the assumption is merely arbitrary. On what is this assumption based? | Once mining ends, it takes 3-4 years to pump all of the sand tailings back to the fill reclamation area. It is after this 3-4 year period when they have completed pumping the sand tailings, that is considered the end of mining operations. Per Florida law, the mining companies have 8 years after the end of mining operations to complete reclamation. |
| 000000369-12 | Manatee County, FL, Ed Hunzeker | County Government | 1. Section 3.1.4, Page 3-5: The draft AEIS states that "CSA footprints historically represented up to 40 percent of a mine's total acreage at completion of the life of the mine." This is a considerable amount of acreage that has limited post-reclamation uses. All efforts should be made to ensure that the footprints of permitted CSAs are minimized and that no individual county, jurisdiction or watershed is burdened with an overabundance of CSAs. Manatee County requires a clay balance which prohibits importation and disposal of clays that are not mined within the County. | There has been a reduction (approximately 10 percent) in CSA footprint size as mining has proceeded from north to south within the CFPD. Current regulations require that phosphate mining companies minimize the footprint of CSAs to the extent practicable. Based on these regulations, CSAs are currently constructed to be higher than they were in the past and they are stage-filled, which is a process of dewatering and filling to maximize storage per area. Mining companies also try to use contiguous CSAs so they have a common wall to reduce the CSA footprint. Clays from phosphate ore mined in a specific county are returned to CSAs within that county as identified in the conceptual reclamation plan for each mine. |
| 000000369-43 | Manatee County, FL, Ed Hunzeker | County Government | 2. Section 5.3.4, Development-of-Appropriate-Hydrology: Although there should be a mandate, the use of sophisticated integrated surface water/groundwater modeling is used when required by permit stipulation (e.g. Altman Parcel #4). Manatee County currently is the only agency requiring monitoring of post-reclamation hydrologic conditions as part of Phosphate Mining Code, Ordinance 04-39, Reclamation Manual. It has been demonstrated that successful reclamation begins with first successfully restoring the | Comment acknowledged. Additional hydrology modeling has been completed for the Final AEIS. |

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| | | | appropriate hydrology. | |
| 000000369-45 | Manatee County, FL, Ed Hunzeker | County Government | 4. Section 5.5.2, Offsite Mitigation, Page 5-11: Manatee County staff found it curious that this section contained no discussion of reclaiming non-mandatory lands in the Peace River basin as offsite mitigation, specifically targeting historic headwater wetlands and streams. | Chapter 5 of the Final AEIS has been updated to describe various components of a mitigation framework that will be considered during this process and may include various options for mitigation including onsite and offsite mitigation at locations. The inclusion of mitigation in non-mandatory lands may be a part of this evaluation. |
| 000000371-82 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Aesthetics It seems a bit much to state that clay settling areas provide a positive scenic relief to an otherwise flat landscape. There seems to be a fairly broad opinion outside of the mining community that they are a relatively unattractive long-term addition to the landscape. | Comment acknowledged. Additional text has been added to the Final AEIS to address aesthetic concerns in more detail. |
| 000000373-4 | Audubon Florida, Eric Draper | Environmental Organization | Charlotte Harbor Estuary Health: As the Draft AEIS notes, the estuary is formed by the flow of rivers and streams into Charlotte Harbor. Audubon agrees that the high productivity of Charlotte Harbor, in its entirety, results from its diverse assemblage of habitats, which include seagrass beds, mud flats, sand flats, mangrove swamps, salt marshes, and oyster reefs. All of these types of habitats are found within the Charlotte Harbor Estuary including the transition zones into the tidal reaches of both the Peace and Myakka Rivers. Reductions in surface water flows could have a harmful impact on the above listed habitat types, many of which are used by birdlife. Birdlife should be used as a measure of estuarine health with an emphasis on American Oystercatchers and Reddish Egrets. The final AEIS should require that new mining activities minimize reductions in flows to the Charlotte Harbor Estuary. Other than evapotranspiration, mining does not cause water to disappear. Mining permits should specify that, to the extent practicable and consistent with other required practices (including those concerned with water quality), stormwater management systems be operated to release rather than hold stormwater onsite. As part of compensatory activities, applicants could be asked to conduct off-site improvements to (primarily agricultural) drainage systems that have the effect of flash draining stormwater into streams and rivers. | The Final AEIS modeling results indicate, as suggested by the commenter, that there would be no significant loss of surface water flow or changes in groundwater that would affect the CHNEP. Conditions placed on the permits and described in the ROD will include the appropriate requirements for compensatory mitigation and other requirements that are necessary to project jurisdictional waters of the U.S. |

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| 000000377-4 | Dr. Margaret M Niklas, BS Biology, DVM | Private Citizen | Another concern is the impact on the natural beauty and endangered species that live on this proposed site. From my studies of ecology and population biology, the huge impact of a mining operation would have a devastating effect on the flora and fauna of this area. On our family's five-acre property, I have seen: rabbits, raccoons, opossums, deer, armadillos, wild turkeys, a large bobcat, box and gopher tortoises, toads and frogs, various snakes (including indigo), pileated woodpeckers, red-tailed hawks, kestrels and merlins, and many other avian species. I can't imagine there would be no impact on these creatures as a result of mining operations because of our proximity to the proposed Desoto mine. Although the mining operations claim to restore the land after mining, the organic species cannot "wait" for this eventuality and we could lose valuable niches in our ecological picture. The formation of strata of earth and aquifer systems, subsoil and topsoil that took hundreds of years to form cannot be recreated by cosmetic "reclamation". | Comment acknowledged. The Final AEIS presents a revised approach for the use of buffers that provide valuable habitat protection and migratory corridors. |
| 000000378-8 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 8: The AEIS falsely claims that CF Industries wetland mitigation plan for the South Pasture Extension Mine was not available for review Section 5.6 of the AEIS states: At the time this AEIS was prepared, the Applicants for the four currently proposed mines (Desoto, Ona, Wingate East, and South Pasture Extension) had yet to submit federal Section 404 wetland mitigation plans for the mines to USACE for review and approval. While it may be true that CF did not submit an official wetland mitigation plan for the South Pasture Extension mine to USACE, CF did submit a reclamation plan detailing wetland mitigation to other state agencies, and this was available for USACE review. This plan, entitled Reclamation Plan for the CF Industries, Inc, Hardee County South Pasture Extension was prepared by ENTRIX on or about March 2010. Obviously CFs federal wetland mitigation plan would closely mirror the one they submitted to state agencies, even if its format differed. Roughly half of the CF reclamation plan addresses wetland mitigation issues, and the plan provides both narrative descriptions of wetland mitigation approaches as well maps/tabular information related to wetland mitigation. More specifically, it provides wetland-specific information including reclamation acreages, reclaimed wetland locations, topsoiling specifications, | CF Industries' wetland reclamation plan is not applicable to the federal 404 mitigation that will be required of CF Industries for the SPE mine. However this plan was reviewed and considered where applicable in evaluating possible cumulative impacts and timing for other activities that would affect groundwater recharge, etc. Although some elements and approaches of the plan may be the same as the final federal plan, the, assessment of federal wetland mitigation requirements cannot be made based on the state reclamation plan. |

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| | | | planting species, planting densities, monitoring requirements, and success criteria. Even though this submittal was entitled a reclamation plan rather than a wetland mitigation plan, it contained all the information needed for consideration in the AEIS review. The AEIS was remiss in not thoroughly reviewing the CF wetland reclamation plan, particularly considering that Mosaic had not yet submitted its mitigation/reclamation plans for the other three mines. | |
| 000000378-9 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 9: The wetland mitigation approach specified in the South Pasture Extension Mine reclamation plan will not ensure that wetland mitigation meets the requirements of the Federal Wetland Compensatory Mitigation Rule (33 CFR Part 332). A complete and detailed review of the South Pasture Extension (SPE) wetland mitigation/reclamation plan is beyond WEAs present scope. That being said, the following preliminary comments are offered: While this recent reclamation plan includes some of the newer wetland reclamation concepts and methodologies, it is nonetheless flawed in that it does not require full, in-kind mitigation of wetlands and their functions. The plan specifications are worded such that they contain numerous opt-outs and alternatives. The SPE wetland reclamation plan allows for the use of salvaged or stockpiled muck on reclamation wetlands but does not require it. CF states that if timing between clearing of donor sites and completion of the restoration does not allow for direct transfer, muck may be stockpiled.... in the event that insufficient wetland muck or topsoil is available, CF will coordinate the use of other appropriate materials with FDEP... Forested wetlands will be created on sand tailings and then graded and capped with suitable wetland topsoil, if available [emphasis added]. While the reclamation approach is described for each of the various wetland types (including bay swamps), and appropriate species for the wetland types are included in the overall wetland planting list, there is no requirement that a given wetland type be planted with the species that define that type, nor is fidelity to the target wetland type required for the wetland to meet success criteria. If vegetation growth and survival are adequate, then as long as the dominant species are the same or functionally the same as that of the target habitat, the reclaimed wetland can be considered | CF Industries' wetland reclamation plan is not applicable to the federal 404 mitigation that will be required of CFI for the SPE mine. Although some elements and approaches may be the same, assessment of federal wetland mitigation requirements cannot be made based on the state reclamation plan. However, the USACE review will include full consideration and application of the CMR in its analysis and final plan approval. |

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| | | | successful. The SPE reclamation plan does not specify what the reclamation acreages of specific wetland types are supposed to be (other than forested versus non-forested wetlands). Consequently, the SPE reclamation plan, as written in 2010, will not ensure that in-kind wetland mitigation occurs in compliance with the CMR. | |
| 000000378-11 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 11: The AEIS misrepresents the acreage loss of bay swamp/seepage wetlands in foreseeable future and alternative mine areas (AEIS Tables ES-3; pp. 16-17). Table ES-3/ES-4 of the AEIS indicate only two acres of impacts to bay swamps in the foreseeable future mines (Alternatives 6 through 8) or other alternative mine areas (Alternatives 9 through 25). This is not only incorrect, it is a misrepresentation that the USACE and the AEIS preparers would have known to be incorrect because they would have known that at least some of these tracts would undoubtedly contain bay swamp communities in headwater positions or along upslope seepage areas bordering stream/riverine systems. If the USACE and the AEIS preparers did not have actual bay swamp acreages available, then they should have either requested them or indicated the bay swamp acreages were not available rather than giving the impression they were absent. Furthermore, it is strange that a summary breakdown of bay swamp, forested wetlands, and herbaceous wetlands is provided in the AEIS executive summary for foreseeable future and alternative mines, but not in Table ES-2 for the four mines currently proposed (where specific wetland type acreages are known). This gives the impression that the AEIS executive summary is trying to divert attention away from the issue of bay swamp impacts. Considering that bay swamps are the forested community that the phosphate companies have the poorest record in successfully reclaiming, and that bay swamps are perhaps the most at-risk forested wetland type when it comes to mining (due to their landscape position), these tables are very misleading. Tables 4-8, 4-11, and 4-14 repeat the pattern of not reporting the presence of bay swamps. In particular, Table 4-8 reports zero presence of bay swamps on the Ona tract. I have personally spent weeks in the field collecting data on the bay swamps of the Ona tract. In previous mine applications for the Ona mine, IMC/Mosaic openly admitted | As stated in the Final AEIS, the coverage and quantities of wetland types within the foreseeable future mine sites and alternative mine sites were derived from 2009 SWFWMD FLUCCS mapping/data. This mapping/data was reviewed to FLUCCS level 3 to determine the amount of bay swamps and other wetland types that exist at the sites. The 2009 SWFWMD data was considered to be the best available source of information on wetlands within these sites, in lieu of field data which were not confirmed at the time. This discrepancy did not result from an intentional effort to provide misleading information in the AEIS, but is rather the result of using the same data source for the proposed mines as was used for the alternatives analysis for the purposes of being consistent in the analyses and using a neutral source of data outside that which is provided in the applications. However, the Final AEIS was revised to include the wetland type data from the applications. |

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| | | | the presence of bay swamps on the tract. And in administrative hearings related to those earlier mine applications/permits, there was substantial testimony offered on Onas bay swamps. Furthermore, Table 4-8 also indicates there are no bay swamps in the proposed South Pasture Extension. Yet in Section 4.3.2.4, the AEIS states that 96% of the bay swamp acreage on the property will be preserved in perpetuity. Obviously that statement proves that there was knowledge (at least by the original writer) that bay swamps were not only present on this mine site, but of such ecological importance that their preservation was worth mentioning. The significance of these contradictions in the AEIS goes well beyond the technical issues related just to bay swamps. The USACE, the AEIS preparers, and the applicants all knew there were bay swamps on the four proposed mines. Information provided by Mosaic and CF Industries in their ERP/Section 404 permit applications reports the following bay swamp acreages for the four mines: Desoto Mine 231.2 acres of bay swamp Ona Mine 126.6 acres of bay swamp Wingate East Mine 22.0 acres of bay swamp South Pasture Extension Mine 29.8 acres of bay swamp One can only speculate as to why all parties to the AEIS decided to ignore the presence of this sensitive and difficult-to-reclaim wetland type. Regardless of the reasons for the error, one cannot escape the conclusion that the USACE knowingly allowed incorrect data to be reported in the AEIS. This misrepresentation of bay swamp acreages seriously erodes the credibility of the AEIS as a thorough and impartial evaluation of the impacts potentially associated with phosphate mining in the CFPD. | |
| 000000378-12 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 12: AEIS does not adequately discuss the unproven ability of mining companies to successfully reclaim bay swamp/seepage wetlands The issue of whether mining companies can successfully reclaim bay swamp wetlands is a very important one, and one that the USACE, the AEIS preparers, and the mining companies are well aware of. In an attempt to bolster their claim that they can restore bay swamps, Mosaic commissioned a report entitled Characterization of Forested Seepage Swamps on Mosaic Lands in the Bone Valley of West-Central Florida, authored by Michelle Curtis and Shirley Denton in 2011. Mosaic provided | The Final AEIS has been revised to include additional discussion of bay swamp mitigation, including discussion of associated difficulties and relevant information from the studies referenced by the commenter. |

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| | | | this report to USACE as part of its scoping comments along with the following statement: For example, there have been allegations that natural sites known as "bay wetlands" or "bay swamps"-cannot be replicated through mitigation. In this regard, Mosaic asked Dr. Shirley Denton, of Cardno ENTRIX to evaluate and compare the functions of certain natural and certain reclaimed forested seepage/bay wetlands. Working with other ecologists, she prepared the report titled, Characterization of Forested Seepage Swamps on Mosaic Lands in the Bone Valley of West-Central Florida, a copy of which is enclosed. She compared three natural (undisturbed) features that qualified as "bay wetlands" under a regulatory definition with three post-reclamation features designed to replicate this particular natural system. Taking into account differences in the age of the systems, Dr. Denton concluded that forested seepage wetlands (bay swamps) were developing properly on the reclaimed sites. There is no support for a blanket assertion (or conclusion) that such wetland types cannot be restored or reclaimed. Obviously Mosaic viewed bay swamps and their reclamation as an important enough issue to commission a special study to bolster their assertion that they really can create this wetland type. Yet the AEIS provides only minimal mention of bay swamp reclamation and nowhere mentions it associated difficulties (which would have been at least an equal part of any unbiased discussion). The AEISs brief treatment of this topic is found in Section 5.4.1: An example of the use of muck application and plant transplantation is Mosaics Alderman Creek Bay Swamp Demonstration Project. This project involved the construction of a seepage wetland via muck application and a combination of bay tree transplantation and nursery-grown plantings (Gaines et al., 1999). In addition to the application of muck, an upslope hill was constructed from sand tailings to allow seepage drainage into the wetland as the primary source of hydration. The Hillsborough County Environmental Protection Commission determined in 2005 that this wetland was trending towards success as a bay swamp. So Mosaic presents the Curtis and Denton (2011) report and the AEIS presents the Gaines et al. (1999) paper as evidence that bay swamps can be successfully reclaimed. If one examines these documents more carefully, it can be seen | |

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| | | | they really do not support the claims made and are flawed in various respects. Consider the following: Bay swamps are defined by state agencies and in the scientific literature as being seepage-supported forested wetlands dominated by one or more of the three bay species sweetbay (Magnolia virginiana), redbay (Persea palustris), and loblolly bay (Gordonia lasianthus). Quantitative studies done by Monk (1966) demonstrated that the most prevalent subdominant tree in bay swamps was blackgum (Nyssa sylvatica var. biflora). Other forested wetlands types may contain bay trees, but they are not considered bay swamps where bay trees are not dominant. Gaines et al. (1999) actually examined four bay swamp reclamation sites, though the Alderman Creek site was the only one mentioned in the AEIS. | |
| 000000378-12 | Winchester Environmental Associates, Inc., Brian Winchester | Company | Curtis and Denton (2011) examined three of these same sites over 10 years later. None of the sites discussed in either report adequately demonstrate successful and intentional bay swamp reclamation for the following reasons: o AMAX-BF-1: For many years the mining industry cited this reclamation site as a premier example of successful bay swamp reclamation, and because reclamation in the area having was completed in 1979, it was one of the oldest sites. Gaines et al. (1999) reported the site to be dominated by loblolly bay, and stated that preliminary results indicate that over a period of less than 20 years a bay swamp forested wetland (AMAX-BF-1) can be created in central Florida. The problem with this site is that the area where bay swamp vegetation returned was never actually mined. An examination of historic aerial photographs shows that a portion of AMAX-BF-1 was cleared of surface vegetation in anticipation of mining, but then mining was terminated prior to reaching the cleared boundary. This was confirmed by WEAs field studies of the site in 2003-2004, where vegetation features and soil profiles confirmed the exact boundaries between the mined and unmined portions of AMAX-BF-1. WEAs field studies at this site demonstrated that the portions of site that had actually been mined were dominated by non-bay species, namely wax myrtle (Myrica cerifera), red maple (Acer rubrum), and Carolina willow (Salix caroliniana). The study by Curtis and Denton (2011) omits this site from consideration, presumably because the site is not a valid | The Final AEIS has been revised to include additional discussion of bay swamp mitigation, including discussion of associated difficulties and relevant information from the studies referenced in your comment. |

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| | | | example of bay swamp restoration. Because the conclusions reached by Gaines et al. (1999) were based upon data collected from a wetland that was simply recovering from having been cleared rather than a reclaimed wetland, they should be totally discounted. o Hardee Lakes: This site was examined by both Gaines et al (1999) as well as Curtis and Denton (2011). Final grading of the site reportedly occurred in 1990, followed by multiple planting events between 1991 and 1995. Curtis and Denton (2011) note that this wetland was officially created in 1990 as a forested hardwood wetland and not as a bay swamp. In the most recent data provided by Curtis and Denton (2011), bay species accounted for only 31.7% of the overstory stratum and 32.5% of the basal area at the Hardee Lakes site. For this reason, Curtis and Denton (2011) concluded that ...this wetland, planted to be a hardwood swamp, is a hardwood swamp, but it does not meet the FLUCFCS 611 definition of a bay swamp. The findings by Curtis and Denton (2011) that the site is not a bay swamp were further confirmed in WEAs field studies of the Hardee Lakes site in 2003-2004. o South Prong Wetland: Gaines et al. (1999) stated that bay swamp reclamation activities at this site commenced in October 1996, and that the entire bay swamp project encompassed 10 acres. They further reported that the site was planted with 7000 bay trees (all three species) and 2500 other wetland tree species. Their field measurements a few years after the plantings showed 71% dominance by bay species. WEA randomly-located vegetation transect data from this site in 2003-2004 showed the three dominant tree species at the South Prong site to be sweetbay, wax myrtle, and Carolina willow, with all bay species taken together comprising less than 45%. The most recent data collected by Curtis and Denton (2011) showed that of the three bay species, only sweetbay still had a significant presence on the site and that it accounted for only 41% of all tree species present. | |
| 000000378-12 | Winchester Environmental Associates, Inc., Brian Winchester | Company | Curtis and Denton (2011) described the wetland as a young hardwood swamp with a variety of hardwood trees growing into the overstory... o Alderman Creek Bay Swamp: According to Gaines et al (1999) final contouring of the Alderman Creek Bay Swamp Demonstration Project (ACBS) was completed in 1997. This was followed by the direct transfer from a donor | The Final AEIS has been revised to include additional discussion of bay swamp mitigation, including discussion of associated difficulties and relevant information from the studies referenced in your comment. |

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| | | | site of muck, 539 whole trees, and 431 stumps that continued up until March 1999. Accordingly, their measurements of the ACBS site should be viewed as the initial post-planting baseline of the site, showing the initial (tree and stump) bay percentage of the site to be 91.6%. Roughly ten years later, the measurements by Curtis and Denton (2011) demonstrated that total bay dominance was down to 60.0%, though sweetbay was still the most prevalent species. Therefore, the currently demonstrated trend for the ACBS wetland is one of decreasing bay prevalence and increasing red maple prevalence, so it remains to be seen whether this site will eventually mature to be a bay swamp or a mixed hardwood swamp. A recent photo of the interior of the site (see Figure 1), excerpted from Curtis and Denton (2011), show how young and how vegetationally-underdeveloped much of this site still is. It would be inappropriate at this time to represent it as a successful bay swamp. o In summary, two of the three reclaimed wetlands evaluated by Curtis and Denton (2011) failed to meet the definition of a bay swamp (even though they are maintained at least in part by seepage). The remaining (and youngest) wetland was dominated by bays but its overall trend in terms of species Figure 1. Photo of the interior of Alderman Creek Bay Swamp (from Curtis and Denton, 2011) composition appears to be away from bay dominance. Curtis and Denton (2011) summarized their study findings by stating overall the created wetlands appeared to be developing into forested seepage wetlands. In their summary they also note that more recent planting of bays in appropriate zones appears to be working to shift new wetlands toward increased abundance of bays. In other words, when you plant more bays their abundance increases. Nowhere in their summary is there a statement that a bay swamp system, dominated by bay species in accordance with the definition of this wetland type, has been successfully reclaimed. o It is reasonable to assume that if the phosphate industry had better or additional examples of bay swamp restoration other than those discussed above, they would have been presented. Consequently, it appears that the phosphate industrys entire claim of being able to reclaim bay swamp systems rests on a single 8-acre, 13-year old system that is still in a very early developmental state. | |

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| 000000378-13 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 13: AEIS does not adequately discuss the unproven ability of mining companies to successfully reclaim wet prairie wetlands Amongst the native unforested wetland types, shallow-hydroperiod wet prairies wetlands (FLUCFCS code 643) also pose many reclamation challenges. Most natural wet prairies are shallowly-inundated wetlands on mineral soils that are periodically subject to fire. The issue of whether mining companies can successfully reclaim wet prairie wetlands is not discussed in the AEIS, nor the effects of replacing wet prairies with deeper marsh systems (which has been the norm for most phosphate unforested wetland reclamation). | The final AEIS has been revised to discuss wet prairie mitigation and issues and successes s relevant. |
| 000000378-15 | Winchester Environmental Associates, Inc., Brian Winchester | Company | CF Industries first justification for the higher with-mining scores is that wetlands in the No Mine area may be subject to agriculture/cattle restrictions that are not currently in place, resulting in universally high water quality. In other words, the landowners that have always used these lands as part of a cattle operation may decide to restrict such uses once they get their land back after mining is completed. CF Industries second justification is that overall site hydrology will be similar or better (less flashy) in the post-reclamation scenario relative to current hydrological conditions. In other words, in the long run mining improves or leaves hydrology unchanged. Preservation wetlands, which are presumably include most of the ecologically high-value wetlands on the SPE site (hence their being chosen for preservation) are given Community Structure (CS) scores of 2 to 8 under the no-mine scenario. All wetlands created after mining were given straight CS scores of 7. This shows demonstrates CF Industries belief that reclaimed wetlands will have better community structure than the majority of the natural wetlands currently on the site. This is in spite of the fact that reclaimed wetlands, as they actually exist today, demonstrate very poor community structure characteristics when compared to native wetlands. The above are just a few examples of the bias in the UMAM scoring process; there are more. This pervasive manipulation of the UMAM process to produce results that favor mining and that lower the amount of mitigation must be addressed by USACE. To fail to do so is to allow the requirements of the CMR to be ignored. USACE should critically review the underlying assumptions of each applicants UMAM evaluative | The Final AEIS has been clarified as necessary to confirm that there is no intent to suggest that mining adjacent to wetlands or streams is preferable to the application of some form of protection. Chapter provides a discussion of the use of buffers and setbacks by the USACE as part of a conceptual mitigation framework. The application of UMAM/WRAP scores as with many biological indices, can be subjective in interpretation but these measures have been widely accepted by the state, SFWMD, and the USAE because they are practical for use within permitting timeframes, they generally provide a consistent process, they can be used with reasonable scientific judgment, and they account for different ecological communities in different areas of the state. USACE project manaters routinely review functional assessment scoring and supporting documentation provided in permit applications to determine their accuracy and appropriateness. |

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| | | | process. USACE should critically review individual UMAM wetland scores just like they critically review the accuracy of the wetland delineations. USACE should not accept with-mine UMAM scores that are based on hypothetical, best-case predictions of how good reclaimed wetlands are going to be. Instead, USACE should only accept UMAM scores based upon either: 1) the actual predominant state of reclaimed wetlands today, or 2) reclamation demonstration projects that have actually achieved success (and this is applicable only if the applicant formally commits in the permits to applying these newer technologies).<br><br>WEA COMMENT 15: AEIS asserts that according to their comparative analyses, buffer areas (i.e., no-mine areas) around high-value wetlands and perennial/intermittent streams resulted in a lesser level of environmental protection. This is another way of saying that mining the lands around wetlands and streams is ecologically preferable (for the wetlands) to the preservation of surrounding lands. There are many professional biologists and ecologists with decades of experience in Florida that would vehemently disagree with the mining companies assertion that wetland/stream systems are benefitted in the long term by mining around them rather than by protecting them through the observance of no-mine buffers. That such an unsupported and incorrect statement is actually made in the AEIS demonstrates the extent of the pro-industry bias in the AEIS. The above claim is very similar to another claim frequently offered by applicants, namely that mining reclamation will produce ecologically superior wetlands and streams to those presently on the landscape. One common way that applicants support their claims that post-mining wetlands and streams will be better than existing wetlands is through WRAP/UMAM analyses. However, most practicing ecologists know that WRAP or UMAM scores can be very easily biased just by varying ones underlying assumptions. This is particularly true with regard to the projected future WRAP/UMAM scores of reclaimed wetlands, where best case mitigation scenarios can be envisioned such that reclaimed wetlands are routinely expected to be better than their natural counterparts. In reality, if WRAP/UMAM scores for reclaimed wetlands were taken from the scores of average | |

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| | | | wetland reclamation sites as they now exist, the scores would no longer indicate that most reclaimed wetlands are superior or comparable to their natural counterparts. In Attachment C-1 of its ERP/Section 404 permit application, CF Industries discusses its UMAM scoring for the proposed SPE mine. Striking examples of how their UMAM scores are biased include: ?Preservation wetlands in the absence of mining were given Location and Landscape Function (LLF) scores of 3 by CF Industries to reflect the assumed conversion of the surrounding areas to agriculture in the absence of the proposed project and its associated reclamation activities. Since the predominant agricultural use of the tract is pasture (hence the mine being named South Pasture Extension), one presumes that pasture is the kind of agricultural conversion CF Industries anticipates. Yet in the case of enhanced wetlands after mine reclamation, CF Industries assigned LLF scores of 6-9, stating scores at the lower end of the range were generally given to wetlands adjacent to pasture and exposed to agricultural activities...scores at the higher end of the range were generally given to wetlands located well within the interior of the No Mine area, where they are buffered from the agricultural uses on the site. So, reclaimed wetlands surrounded by reclaimed pasture are given twice the LLF score as preservation wetlands surrounded by pasture. Under the mining scenario, wetlands in the middle of no-mine preservation areas are given up to three times the LLF score as those very same wetlands in the very same landscape positions without mining. Preservation wetlands were assigned future Water Environment (WE) scores of 8 if mining occurred while those same preservation wetlands were assigned future WE scores of 6 if mining did occur. | |
| 000000379-4 | The Fertilizer Institute, William C Herz | Non-profit Organization | It is well documented that restoration activities post-mining result in healthy, balanced ecosystems. Reclaimed mining lakes meet all State designated uses (i.e., they are fishable/swimmable) and provide diverse habitat for fish and wildlife. Such lakes support ecological and recreational uses ranging from world-class sport fishing, substantial foraging benefits . . . for resident and migratory wading birds and waterfowl, and habitat for a broad array of semi-aquatic and terrestrial amphibians, reptiles, and mammals.[11] Reclaimed wetlands and streams provide that mining causes no net loss | Comment acknowledged. |

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| | | | of wetlands, resulting in a diverse array of habitat for fish and wildlife, and often have beneficial impacts on water quality. Specifically, a 2008 study showed that reclaimed mining lakes in Florida support over 190 avian species, along with some 27 and 29 mammalian species, including several federally and state listed species such as the gopher frog, Florida mouse, Sherman's fox squirrel, gopher 9 Global Hunger and Food Security Initiative Consultation Document. . Retrieved from U.S. Department of State website: http://www.state.gov/documents/organization/130164.pdf 10 Commodity Costs and Returns: Data (2012, May) Retrieved from U.S. Department of Agriculture, Economic Research Service website: http://www.ers.usda.gov/data-products/commodity-costs-and-returns.aspx 11 Hammond, D., & Durbin, D. (n.d.). Nutrient Levels in Lakes Reclaimed after Phosphate Mining. Entrix. Army Corps of Engineers July 31, 2012 Page 5 tortoise, American alligator, Eastern indigo snake, wood stork, bald eagle, Florida scrub jay, least tern, sandhill crane, and osprey.12 Such lakes also support the same community of native fishes as natural lakes in Central Florida.13 In particular, the Tenoroc Fish Management Area in Polk County is a reclaimed mining lake owned by the State and managed by the Florida Fish and Wildlife Conservation Commission (FWC) that is nationally noted for largemouth bass and provides excellent fishing for panfish (bluegill and redear sunfish), black crappie and several varieties of catfish. The lake and its surrounding area also support other recreational uses as they create an important refuge for wildlife, and serve as a top-notch destination for anglers, birdwatchers, hikers, and horseback riders. 14 Other examples of reclaimed mining lakes meeting the State's designated uses are also present. For instance, the Hardee Lakes Park, owned by Hardee County and managed by FWC, consists of four reclaiming mining lakes that support spectacular bass fishing opportunities. Also, the Saddle Creek Park in Polk County is widely recognized as an optimal spot for bird watching. Moreover, the Edward Medard Park and Reservoir in Hillsborough County hosts half a million visitors annually . . . [and] provides an abundance of recreational uses such as bicycling, skating, boating and paddling, swimming, camping, hiking, and abundant fishing.15 These | |

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| | | | lakes support healthy, diverse populations of fish and wildlife and Corps permitting should take into account the benefits reclaimed mining lakes have on the environment. | |
| 000000384-1 | Terry Miller | Private Citizen | Before deciding on whether your DAEIS is complete as to phosphate mining in Florida, consider the following: 1) Please recognize the multiple impacts phosphate mining has on Florida ground and surface water and wetlands. 2) Please analyze wetland and stream damage and the results of long delays in reclamation. 3) Please study the impacts of gypstacks and gypstack spills. | The Final AEIS has evaluated the impacts that phosphate mining has had and would potentially have in the foreseeable future on groundwater, surface water, wetlands, and streams. The temporal delay between impacts and reclamation has also been addressed in the Final AEIS. It is important to recognize that impacts to these resources do not occur simultaneously but are sequenced over years based on the current mining plans. The impact evaluation, therefore, has considered the impacts that would occur serially over time rather than all at once. The Final AEIS includes additional information on the management and regulatory responsibilities for gypsum stacks and why their consideration is outside the scope of this EIS. |
| 000000388-3 | Beverly Griffiths | Private Citizen | 3) Reclamation of post mined land has not kept pace. When mining companies are unable to comply with their reclamation promises, whether due to a shortage of fill material, the inability to comply with dissolved oxygen standards for a pit lake, or meet their time table, they may easily obtain a variance from the state, allowing them to deviate. | Comment acknowledged. |
| 000000388-6 | Beverly Griffiths | Private Citizen | In closing, I am very concerned that Florida is getting a bad deal from phosphate mining which produces far fewer jobs than they claim, withdraws massive amounts of our ground water for free, and leaves our land in a very poor and questionable conditionall so mining companies can dig up our phosphate resource as cheaply as possible, convert it to fertilizer and ship much of it overseas. If mining is to continue, the companies must be held to a higher standard in order to protect our land, water and downstream communities and assets such as the Charlotte Harbor estuary. | Comment acknowledged. |
| 000000390-5 | Just the Facts | Non-profit Organization | I suggest that aerial pictures of old mines be part of the AEIS. Try South Fort Meade which is more than 15 years old. Does it look reclaimed? The clay slime ponds and hideous blot on Florida's landscape is clearly visible from a long ways up. For a closer view, see this 4-minute film that shows the real face of phosphate mining: www.youtube.com/watch? | Comment acknowledged. |

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| 000000391-1 | Florida Fish and Wildlife Conservation Commission, Bonita Graham | State Agency | FWC staff has been actively involved with Central Florida phosphate mining through the provision of reclamation and wildlife-related technical assistance to the industry, the counties, and the permitting agencies. Currently, FWC staff is focusing on two emerging issues the management status of existing reclaimed lands and the status of reclaimed habitats intended to enhance the function of reclaimed ecosystems. There is currently no long-term oversight provided under regulatory permit conditions for land management. Existing reclaimed mine lands have been vulnerable to invasive and exotic plant infestations. Recently reclaimed habitats have also shown vulnerability to functional degradation when left unmanaged. To address these issues, FWC staff is working cooperatively with County and non-governmental organization staff, such as with the Cooperative Conservation Blueprint Program, in order to identify previously reclaimed central Florida mines needing management assistance or offsite mitigation options. Also, FWC staff initiated discussions with industry representatives regarding the creation of a "Mine Lands Stewardship Program" for oversight and management of reclaimed habitats. We believe that these initiatives, in addition to our continuing participation in federal, state, and local reclamation-related permitting processes, will continue to provide effective mitigation for phosphate mining's impact on the fish and wildlife resources of Central Florida. | Comment acknowledged. |
| 000000393-30 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP endorses many of the off-site mitigation approaches provided in chapter 5. We see this as a rich area to implement components of the CCMP, mitigate unavoidable impacts of phosphate mining, mitigate temporary losses of wetlands and results in restoration of water flows, water quality and habitat. Alternatives which restore historic basin boundaries, improve a waterbodies affected by artificial structures, protect freshwater wetlands and upland communities vital to the ecological function of the system, create landscape scale habitat connections and increases acreage of conservation lands in the Peace River and Myakka River basins. In general, CHNEP favors hydrologic restoration projects because water quality and habitat benefits often result. CHNEP favors mitigation within the basin of impact. However, projects which may be outside of the CFPD but | Comment acknowledged. |

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| | | | within the River basin of impact may be so important, we would endorse it. CHNEP particularly endorses the Long Island Marsh restoration, including restoring flows to Shell Creek; restoration of lost headwater wetlands and land conservation through permanent instrument (e.g. conservation easement or title) in Hardee and Desoto. We have forwarded our additional identified restoration needs to representatives of Mosaic and CFI. | |
| 000000397-10 | US Environmental Protection Agency, William L Cox | Federal Agency | EPA Recommendations: EPA concurs with the content in Chapter 5 of the AEIS that points out that wetland enhancement, restoration, establishment (creation), and/or preservation projects could serve, in appropriate combination of activities, to offset unavoidable wetland impacts for the proposed phosphate mining, when such mitigation projects are conducted in accordance with the USACE and EPA policies and procedures described in the joint 2008 Mitigation Rule. EPA notes that the DAEIS analyzed wetland mitigation and compensatory mitigation in a broad procedural sense, but we recommend additional, site-specific analyses be performed for the FAEIS as noted below. The ecological benefits of a mitigation project should compensate for the functional loss resulting from the permitted wetland impact. Compensatory mitigation activities may include, but are not limited to, onsite mitigation, offsite mitigation, offsite regional mitigation, and the purchase of mitigation credits from permitted mitigation banks. | Comment acknowledged. |
| 000000397-11 | US Environmental Protection Agency, William L Cox | Federal Agency | As mentioned previously in our comment on the Alternatives Analysis, the threshold of practicability is given in the DAEIS as 10-miles, and EPA recommends that use of this distance (versus use of a longer distance) be better justified in the FAEIS. For the proposed Mosaic Ona mine, the mine plan or configuration as proposed appears separated from the additional and contiguous Mosaic property to the south, also anticipated as a phosphate mine in the future and analyzed in the AEIS. EPA recommends that the Ona Mine site and the large Mosaic property to the south be planned concurrently, considering that a larger contiguous planning area would allow more options and opportunities for avoidance of wetland and other environmental impacts and compensatory mitigation. | None of the +/- 20 CFPD mines that have operated in the last 30 years have mined reserves outside of a 10-mile radius from their beneficiation plant. Given the high quantities of material transported, the infrastructure and maintenance costs, the energy and water costs of transporting material, and the costs associated with beneficiation plants, the USACE has determined that the 10-mile pumping distance is the practicable pumping limitation for a beneficiation plant given current technology. Additional discussion of this topic is in Section 3.1.5 of the Final AEIS.<br>The USACE had additional consultations with the USEPA on the coordination of these two mines to ensure planning captures the benefits of evaluating these contiguous natural areas and watersheds together. While these are separate |

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| | | | | projects, the USACE project managers for these projects will coordinate as appropriate to consider the contiguous areas in mitigation planning. |
| 000000397-12 | US Environmental Protection Agency, William L Cox | Federal Agency | The DAEIS mentions a proposed permit duration of 45 years for the Ona mine, as well as similarly long times for the other mines. EPA notes that such a long duration can involve substantial risk for increases in environmental impacts over time as technical, biological, climatic, economic, and legal conditions will probably change over such a long period. In recognition of this high risk and uncertainty associated with a long permit duration, EPA recommends that a shorter permit duration be considered, with the entire proposed mine area potentially covered as sequential individual permits instead of a single long permit. EPA also recommends permit conditions that require periodic interagency reviews of mining and mitigation activities at least every 5 years, as well as annual or semi-annual substantive reporting of mining and mitigation activities, with a corrective action plan or adaptive management plan included in the same reports when warranted. | USACE has had preliminary discussions on permit duration and periodic reviews with USEPA, and will hold further discussions as the reviews of the individual projects progress. |
| 000000397-14 | US Environmental Protection Agency, William L Cox | Federal Agency | Compensatory mitigation options, likely as mitigation banks, consistent with the USACE and EPA joint 2008 Mitigation Rule, should be reviewed and discussed further in the FAEIS. Conceptual off-site wetland restoration opportunities already have been identified in the Peace River watershed and discussed with EPA several times since mid 2011. Typical wetland mitigation opportunities for a substantial gain in wetland function could involve rehydration of drained wetlands on current agricultural lands, removal or alteration of levees or dikes to restore floodplain functions, blockage of drainage ditches, removal of historic fill material, and other field methods. | Chapter 5 in the Final AEIS has been revised to include additional discussion of offsite mitigation options. |
| 000000397-15 | US Environmental Protection Agency, William L Cox | Federal Agency | The FAEIS should include better justification for the adopting the Florida UMAM wetland functional assessment method instead of the older and largely obsolete WRAP method. The reduced mitigation value of preserved, but not necessarily restored or enhanced, wetlands also should be determined early in the review and discussion process. In addition, the temporal loss of wetland functions should be incorporated into the overall compensatory mitigation planning, likely | The 2008 Compensatory Mitigation Rule states that where appropriate functional assessment methods are available, such methods should be used where practicable to determine how much compensatory mitigation is required. The USACE neither prescribes nor prohibits any specific numeric functional assessment. The USACE Jacksonville District has determined that both UMAM and WRAP are acceptable functional assessment methods that can be used by |

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| | | | resulting in a mitigation project with more than a one-to-one final ratio to compensate for the temporal loss and uncertainty associated with successful wetland and stream restoration following surface mining operations. The FAEIS should discuss a new mitigation bank (or banks) that could be established even if the permit applicant(s) is/are the only bank customer. Under the Federal mitigation banking process, an independent organization should manage the mitigation bank(s) as a first priority, and a separate bank could serve the Myakka River and Peace River as distinct watersheds, in recognition that watersheds at that scale(e.g., 8-digit HUC codes or hydrologic units) are the broadest scale under the 2008 Mitigation Rule. | applicants in developing compensatory mitigation plans. The reduced mitigation value of preservation alone and temporal loss are acknowledged and will be considered by the USACE. The Final AEIS does conceptually address the option of phosphate mining companies developing a single user mitigation bank. However, without a formal proposal submitted for evaluation, this option remains speculative. |
| 000000542-26 | Percy Angelo | Private Citizen | In light of the fact that the northern half of the CFPD has already been mined, the DAEIS NEVER DISCUSSES WHETHER THERE IS SUFFICIENT WETLAND AND STREAM CAPACITY WITHIN THE CFPD, OR EVEN BEYOND IT, TO MITIGATE FOR THIS DESTRUCTION WITHIN THE PEACE AND MYAKKA WATERSHEDS. | USACE and FDEP would allow mining only to the extent that the impacts could be mitigated. The Final AEIS includes a detailed analysis of the potential impacts to streams which supports the information needs of the USACE in setting final mitigation requirements in each application. |
| 000000542-85 | Percy Angelo | Private Citizen | H. The Destruction and/or Insufficient Reclamation of Wetlands and Surface Waters Have a Permanent Impact on Ground and Surface Water Systems. -Disruption of surface and groundwater flows to creeks and streams by incomplete, though standard, reclamation is permanent but is never discussed and no inventory of wetland losses, past or future is ever provided-Nowhere in the DAEIS is there a discussion of an issue clearly called to the Corps attention by the USGS and by the Environmental Groups. Mining permanently disrupts groundwater flow into surface waters. Reclamation never fixes this. In fact reclamation is simply designed to recontour and plant mined-out areas. See 3-17. It does not attempt to recreate the groundwater regime and its flow toward the rivers and streams. See e.g. 3-69 to 70 which shows that groundwater levels and hydraulic conductivities vary depending on the type of reclamation-most reclaimed areas did not mimic natural systems. Thus, the assumption of the DAEIS, 4-164, that state reclamation requirements will be met and confine impacts to the mine footprint is simply wrong. See the numerous discussions about broader and continuing impacts, below. In addition to the permanent | The Final AEIS has assessed the cumulative impacts of foreseeable mining on groundwater and surface water within and outside the CFPD through 2060 to the extent allowable by available data and analytical methods. In the Cumulative Impacts section of Chapter 4, it is concluded that, based on the analyses performed, the proposed action would have no significant adverse cumulative impacts through the foreseeable future (2060) on surface water hydrology (including downstream water deliveries to the Charlotte Harbor Estuary) or groundwater within or outside the CFPD. Chapter 3 of the Final AEIS discusses the findings of several investigations that addressed the hydrologic differences (surface water flow and groundwater) between reclaimed phosphate mine lands. The Conceptual Reclamation Plans (CRP) required by Chapter 378 F.S. and Rule 62C-16 F.A.C. include the reclamation standards in 62C-16.0051 that requires the reclamation of acre for acre and type for type of all wetlands on the CRP, and the restoration of the system hydrology by reclaiming the watersheds, which is to be designed through detail modeling. A sample of reclamation programs in Polk and Hillsborough Counties was investigated |

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| | | | presence of CSAs throughout the former mine site, there is substantial data to show that current methods to reclaim wetlands dont work. See discussion in this section below. The draft document does not discuss that issue, and it certainly does not contain any studies to resolve it, though the Corps was urged to do that very work as part of the AEIS, in light of the enormous acreages of wetlands and streams involved. | in September 1992 by the FDEP (The Biological Success of Mitigation Efforts at Selected Sites in Central Florida) and concluded "This initial study indicates that, when properly performed, successful restoration of aquatic systems is possible." |
| 000000542-88 | Percy Angelo | Private Citizen | The AEIS analysis fails to consider the contribution of small streams to the watershed as a whole- Speaking at the CHNEP conference on phosphate mining, the State of the Science, Terrie Lee of USGS addressed the importance of small streams to the health of a watershed and urged the use of LIDAR to identify such streams and wetlands. She further urged the maintenance of buffer zones along streams to preserve the effectiveness of the system. Lees presentation is enclosed as Ex. 4. Lees comments are echoed by the summary of Thomas Fraser, attached as Ex. 12. Fraser, a Research Associate at the Florida Museum of Natural History, points out that the DAEIS simply classifies streams as intermittent or perennial, rather than 1st, 2nd, and 3rd, order, a more precise classification which would be a better assessment tool for considering the impacts of mining. He notes that stream lengths and stream gradient are important items of data to assess for reclamation purposes, but have been ignored by the DAEIS. According to Fraser, studies by the state in the 90s show that it is not possible to rebuild streams on mined land and have the same fish communities as natural streams. Mining practices often cut off part of stream watersheds, reducing natural flow to downstream non-mined streams. Fraser notes that levels of dissolved solids and pH play important roles in the presence or absence of some fish species. Almost all monitoring has been done in larger more buffered streams while in fact, the comparisons that should be made are in natural stream segments unaffected by cutoff stream segments. These are generally first and second order streams, often very acidic, with low total dissolved solids within forested systems. Fraser cautions that streams which have existed for 100s of years cannot be destroyed and rebuilt in a span of 10-20 years. He urges that the phosphate industry should avoid most stream systems because they are among the most important habitats that | As part of the consideration of onsite alternatives, a mitigation framework was developed based on public/agency comments received on the Draft AEIS and workshops USACE conducted with USFWS, USEPA, and NMFS. The framework identifies priority-based impact avoidance and minimization criteria and approaches, including revised buffers. The purpose of the framework is to inform the public as to how the USACE project managers will apply input received to the mitigation sequencing for the four applications pursuant to the 404(b)1 Guidelines. The framework is discussed in detail in Chapter 5 of the Final AEIS. Chapter 5 of the AEIS also describes how stream restoration technology has become more focused and has improved over time, with significant advances made since the 1990s, points out that current stream restoration has very specific and stringent success criteria that emphasizes offsetting the loss of ecological functions, including the loss of aquatic biota such as fish and macroinvertebrates, and acknowledges that additional research would provide more information into how constructed streams compare to natural undisturbed streams. |

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| | | | mirror specific small watershed characteristics and maintain natural stream flow to larger streams. The DAEIS does not dispute the importance of baseflow from surficial systems to streams and wetlands, see 3-59, but never addresses the function of such small stream segments or the effectiveness of restoring them, again consistent with the improper assumption that the CFPD will simply be abandoned to mining. | |
| 000000542-93 | Percy Angelo | Private Citizen | Winchester states that many invasive exotic species have become established on even recently reclaimed minelands, in some cases forming virtual monocultures covering many square miles. He urged the DAEIS to examine the cause of this proliferation and domination of exotic and nuisance species on so-called reclaimed lands. | The USACE will review the proposed applications' approaches to mitigation including management of invasive species. This management in most cases will be fundamental part of the applicants achieving the success criteria that the USACE will include in any approved permit. |
| 000000542-94 | Percy Angelo | Private Citizen | It is apparent that the DAEIS simply does not recognize the need for reclamation which is in kind in amount and function. The failure to consider the Winchester comments, though supplied, is improper. But beyond that the DAEIS should have shown awareness of the CMR and how reclamation practices in the past have not been sufficient. The mitigation section of the DAEIS is truncated, conclusional and based entirely on the biased evaluations of the mining companies. There is ample evidence, ignored and not even included by the Corps, that mitigation is not successful. Failure to consider that information is a fatal flaw in the DAEIS discussion. | Chapter 5 of the Final AEIS also acknowledges that early reclamation/mitigation efforts by the phosphate industry were in large part insufficient and unsuccessful overall and specifically with respect to replacing the same types and qualities of the systems impacted, and that the technology overall has improved over time resulting in a steady increase in success. All the mitigation options evaluated in Chapter 5 for providing federal compensatory wetland mitigation per the CMR would require in-kind mitigation to the extent practicable and USACE would ensure that in-kind mitigation is provided per the CMR in any of these options when reviewing future mine permit applications. |
| 000000542-137 | Percy Angelo | Private Citizen | The DAEIS makes some other insupportable claims for the benefits of mining, e.g. that the mining companies provide wildlife networks at no cost to the public, 4-203, or that the companies contribute to local conservation through ad valorem taxes, 4-204. Everyone pays ad valorem taxes and presumably the mining companies benefit, like the general public, from this effort. Mitigation efforts are required by law in replacement for wetlands destroyed. Where they lead to wildlife networks, or other conservation properties, they are very rough, and insufficient, compensation for wetlands losses due to the mining itself. | The Final AEIS has addressed the recent efforts of mine companies to conduct reclamation/mitigation in accordance with the goals of the State's Integrated Habitat Network, which include increasing the quantity and quality of wildlife corridors within and connecting to the CFPD . Comments regarding ad valorem taxes are acknowledged. |
| 000000542-154 | Percy Angelo | Private Citizen | The DAEIS recognizes the benefits provided in the past by buffer zones, withdrawal limitations and conservation acquisitions but never discusses these as mitigation | Withdrawal limitations and conservation acquisitions are not direct mitigation measures; therefore, they are not discussed in the mitigation chapter. As part of the consideration of |

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| | | | measures.-At 4-178 the DAEIS specifically notes that in the past factors that have minimized some of the potential impacts of mining have been conservation acquisitions, water withdrawal limitations and non-development zones such as buffers or setbacks. Despite this clear recognition of the value of these efforts, these mitigation strategies, aside from a very simplistic and overreaching discussion of stream buffers, discussed above, are not discussed in the DAEIS. A powerful example of conservation acquisition, and buffers, is Mosaics recent acquisition of the Peaceful Horse Ranch, a Florida Forever parcel bordering the Peace River and Horse Creeks, for use as a state park. See also 4-183 (Donations of Peace River Park and Hardee Lakes Park). Conservation easements and setbacks along the Peace will also be part of the South Fort Meade extension mine. This approach, targeted to areas of high quality habitat and ground and surface water protection, is much more useful than the geometric drawing of extreme stream setbacks which the DAEIS pretends to consider. See e.g. 4-154 et seq. | onsite alternatives, a mitigation framework was developed based on public/agency comments received on the Draft AEIS and workshops USACE conducted with USFWS, USEPA, and NMFS. The framework identifies priority-based impact avoidance and minimization criteria and approaches, including revised buffers. The purpose of the framework is to inform the public as to how the USACE project managers will apply input received to the mitigation sequencing for the four applications pursuant to the 404(b)1 Guidelines. The framework is discussed in detail in Chapter 5 of the Final AEIS. |
| 000000542-156 | Percy Angelo | Private Citizen | Oddly the DAEIS assumes that conservation easements will be required in future, 4-205, without recognizing the need to consider them as part of the DAEIS mitigation. Unfortunately the mining companies own permit applications show almost no land set aside for conservation. Compare 4-38 to 4-96, which shows that past preservation at mine sites has averaged 15% compared to much lower numbers in the proposed permits, only 6%, for example, at Desoto. The mining companies do not conserve land willingly, the issue must be addressed in the AEIS and conservation mitigation specifically called for. One must be concerned that the failure to discuss this issue is because Mosaic told the Corps not to, see discussion at Section U, below. | Phosphate mining companies are required to place conservation easements on all mitigation wetlands. Other areas, e.g., those which exist within designed no-mine areas, as well as areas outside the mine site for the purpose of providing habitat/corridor connectivity, may also be preserved. Such areas that would be preserved by the four currently proposed mines have yet to be determined as the mitigation plans, which include identification of the preservation areas, are still being negotiated with the regulatory agencies. |
| 000000542-159 | Percy Angelo | Private Citizen | Permits should be limited in time and mitigation should be monitored.-USEPA has urged that 404 permits issued by the Corps be limited in time (e.g. 5 years) so that corrections and adjustments can be made if needed. This concept is consistent with the Council of Environmental Quality (CEQ) mitigation guidelines which require that permits be reviewed, mitigation monitored and supplemental EISs prepared, if necessary, to respond to changes in circumstances. This | USACE has had preliminary discussions on permit duration and periodic reviews with USEPA, and will hold further discussions as the reviews of the individual projects progress. |

## Mitigation

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| | | | alternative and mitigation strategy should be, but is not, addressed in the DAEIS. | |
| 000000542-173 | Percy Angelo | Private Citizen | Note that the Council on Environmental Quality has issued important guidance on Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact.' (January 14, 2011) (CEQ Mitigation Guidance), attached as Exhibit D. This guidance, which cites the COE rules, requires that mitigation measures must be monitored to insure their effectiveness and a further EIS performed if the measures are not effective. Effective monitoring and enforcement of state limitations relied on in the 404 permitting process must be considered by the COE in the AEIS for incorporation in permitting. | Chapter 5 of the Final AEIS addresses the requirement for monitoring mitigation measures to ensure their effectiveness. USACE, through its regulatory authority, will enforce these monitoring requirements in accordance with the CEQ Mitigation Guidance. |
| 000000542-178 | Percy Angelo | Private Citizen | The Corps Has Permitted Mosaic to Direct the AEIS Process.- The record shows an April 25, 2011, comment letter from Mosaic with detailed instructions for preparation of the AEIS. The numerous AEIS deficiencies noted above are apparently the result, in many cases of the Mosaic instructions. This is highly improper. The Mosaic comments are attached as Ex 41. Several examples are as follows: -Mosaic urged the preparation of a purpose and need statement very similar to that proposed by the draft AEIS. Mosaic further urged limitation of the AEIS to the specific projects proposed, not the areawide mining activity. See Mosaic comments at 3-4. This is exactly what the Corps did, despite the promise in its notice of intent to prepare that the EIS would be an areawide EIS. In fact the Corps announced, as instructed by Mosaic, that it would not be conducting a programmatic EIS, nothing that would allow it to consider the overall destruction caused by its mining decisions. -Similarly, Mosaic instructed the Corps not to consider areawide alternatives, but to leave the alternatives discussed to specific permit alternatives, which in turn were to be dealt with in individual permits. It was incredibly blunt about this, thus, the AEIS should not be structured to provide areawide alternatives.' Mosaic Comments at 4. Mosaic goes on to describe specific alternatives which the Corps was allowed to discuss, e.g. Ona and Desoto should not be considered alternatives for each other since Mosaic wanted them both. Any Corps discussion of alternatives, other than those proposed by Mosaic, must | USACE has reviewed and considered all input received during the AEIS review process and, where appropriate, incorporated that input into the Draft and Final AEIS documents, in accordance with CEQ, NEPA, USACE, and other federal regulations. This includes input received from other government agencies, environmental organizations, individual members of the public, and the applicants. Any information received from the applicants was independently evaluated and verified by USACE, or by the third-party contractor under the guidance of USACE. |

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| | | | occur only in individual permits. Id. Later Mosaic tells the Corps not to draw conclusions about good' or bad' mitigation and reclamation practices. Id. at 11. The Corps then did exactly what Mosaic told it to do. -Mosaic instructed the Corps to limit the cumulative impacts discussion, using the same approach as in the Hardee County South Fort Meade permit, even though that was a permit which was appealed and stayed by the USDC in Jacksonville. The Corps went even further than requested by Mosaic, its analysis essentially canceled out past horrific impacts from mining. It agreed to limit future impacts to those from the four involved permits, entirely disregarding other future mines or the continuing impacts of past mining. -Mosaic then instructed the Corps to not discuss fertilizer plants and gypstacks, radiation, the lower reaches of the Peace or Myakka, the Charlotte Harbor estuary, or Tampa Bay. Ex. 41 at 7-8. It claimed that state and local regulation dealt with fertilizer plants and gypstacks and falsely claimed there would be no changes, even though it knows full well that gypstacks expand by 5 tons with each ton of fertilizer produced and even though the gypstacks regularly spill, an event which is not controlled or limited by state permitting. As for radiation, it pretends that radiation exposure for phosphate lands should not be considered because future use of those lands is not known, ignoring the fact that the states only method for protecting the public from phosphate radiation lands is to warn them, via the internet, to stay away. See discussion above. It nevertheless instructed the Corps to reassure the public. The Corps obeyed. | |
| 000000546-1 | US Department of the Interior, Joyce Stanley | Federal Agency | Ecologic resources that are most likely to be affected by the proposed mines or their alternatives include herbaceous and forested wetlands, intermittent and perennial streams, and associated aquatic resource habitats. Approximately 10,000 acres of Waters of the United States and an additional 260 acres of other wetlands will be impacted by these projects. In terms of linear feet of projected cumulative loss of stream habitats, the total estimate for the four projects combined is 260,000 feet. Cumulative impacts to wetland systems are proposed to be mitigated through the states reclamation requirements (acre for acre replacement) plus additional habitat enhancement or creation requirements linked to | Comment acknowledged. |

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| | | | wetlands restoration elements of the mitigation plans that will be developed and included under the subject permits, if approved. Impact avoidance, minimization, mitigation, threatened and endangered (T&E) species surveys, and conservation measures resulting from these projects are currently under discussions. Thus, all of the Corps determinations on T&E species remain preliminary and subject to revision. We will address these mines impacts on T&E species and their supporting habitats through project specific Biological Opinions at a later time. | |
| 000000547-2 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Mitigation should meet the following ratios, at minimum: Seagrass 4:1 FNAI Habitat 04 3:1 FNAI Coastal 04 3:1 FNAI Natural Communities 3:1 LULC Habitat Dry 2:1 LULC Habitat Wet 3:1 4.45: Ensure that mitigation by habitat re-creation employs native plant material which provides the same natural value and function. Monitor mitigation areas for a sufficient time to ensure success: a minimum 85 percent final coverage of desired species. Yearly maintenance and replanting should be undertaken to ensure final cover as necessary. | Levels of necessary mitigation and monitoring will be determined for the four proposed actions in accordance with the 2008 Compensatory Mitigation Rule. |
| 000000547-3 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.47: Recognize that mitigation efforts shall be: Performed within the same drainage basin where the unavoidable impacts to regionally significant wetlands occurs; and Allowed only after avoiding impact to the greatest extent possible; and that habitat creation, restoration, and enhancement, with long-term management, be considered as viable methods of impact mitigation. | Comment acknowledged. |
| 000000547-6 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.64: Promote landscape reclamation, including, but not limited to establishing functional and diverse ecological communities, achieving a balance of human uses and natural lands, and engineering post-reclamation hydrology compatible with regional hydrology. 4.65: Promote and enhance watershed health and viability through reclamation plans and activities which coordinate developed areas, operational mine areas, preservation areas, and mandatory, non-mandatory and unreclaimed lands within each watershed into a comprehensive watershed plan. 4.66: Utilize vegetation native to the Tampa Bay region for mining reclamation and mitigation. | Comment acknowledged. |

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| 000000547-10 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.110: Incorporate specific mitigative measures to prevent fugitive dust emissions during excavation and construction phases of all land development projects which produce heavy vehicular traffic and exposed surfaces. 4.111: Implement land use-related performance standards that minimize negative air quality impacts resulting from development. 5.9: Protect the functional integrity of the West Central Floridas Chairs Coordinating Committees (CCC) Regional Roadway Network, the Florida Intrastate Highway System, and the Strategic Intermodal System through coordination of local government comprehensive plans, MPO plans, and land development regulations. | The Final AEIS has been updated to expand on the air quality issues and approaches for their mitigation. |
| 000000547-11 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 5.11: Support the coordination of truck route plans (goods movement plans) to minimize damage to roadways and reduce impacts on residential neighborhoods. 5.71: Identify, prioritize, and improve present and future intermodal surface links to the regions port facilities to improve the movement of cargo and people. 5.81: Discourage coal and phosphate shipment by truck on public highways due to the potential for road surface and sub-grade deterioration. | Comment acknowledged. |
| 000000548-2 | National Oceanic and Atmospheric Administration, National Marine Fisheries Services, Miles M Croom | Federal Agency | Estuarine habitats in the lower Peace and Myakka Rivers and Charlotte Harbor are designated as EFH as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson Stevens Fishery Conservation and Management Act. Federal agencies that permit activities potentially impacting EFH are required to consult with NMFS and, as a part of the consultation process, prepare an EFH assessment. Contents of an EFH assessment should include: 1. An analysis of the effects, including secondary and cumulative effects, of reduced freshwater inflows from the proposed mining activities on EFH, federally managed fish and invertebrate species, and prey within the Myakka and Peace river estuaries and Charlotte Harbor; 2. The USACE's views regarding the effects of these activities on EFH; and, 3. Proposed mitigation or adaptive management strategies, if a demonstrated adverse impact to EFH and fishery resources would result from these activities. EFH consultation can be initiated independent of | After the Draft AEIS comment period ended, USACE held an interagency workshop with representatives of NMFS, USFWS, and USEPA to discuss among other things, the potential effects of the proposed action on essential fish habitat and the smalltooth sawfish in Charlotte Harbor. The USACE will continue coordination with the NMFS and provide appropriate documentation as needed to respond to the EFH analysis. |

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| | | | other project review tasks or can be incorporated in environmental planning documents, such as the Final AEIS. Upon review of the EFH assessment, NMFS will determine if it is necessary to provide EFH conservation recommendations on the project. | |
| 000000549-1 | Florida Department of Environmental Protection, Lauren P Milligan | State Agency | Staff also advises that, in accordance with Chapters 373 and 378, F.S., all lands mined after 1975 must be reclaimed to a beneficial use and wetlands restored on an acre-for-acre and type-for-type basis. Since 1975, a total of approximately 187,215 acres of uplands and wetlands have been mined, and approximately 71% of those lands have been reclaimed. Please refer to the enclosed DEP memorandum and contact Mr. Orlando Rivera at (850) 488-8217, ext. 33 for further information. | Comment acknowledged. USACE has coordinated with FDEP, which is a participating agency for the AEIS throughout the course of its preparation, specifically with Mr. Orlando Rivera and Mr. Calvin Alverez. |
| 000000550-18 | POW & LBC, James Cooper | Environmental Organization | Restoring WETLANDS (Note: From the previous Ona Mine Site Specific DEIS in 2003 it showed how drantically resoring ONA wetlands is a long term effort: 10-15years min. to a national average of more than 25 years. Our Children & grandchildren will take over the monitoring process, it takes so long to complete. Bonding - Must in place to ensure proper reclamation happens. That ONA Mine 2003 DEIS showed very Alarming & Negative Impacts to WETLANDS: 1st 5 Years: Total WETLANDS Disturbed/Lost = 345 Total ReClaimed = 14 1st 10 Years: Total WETLANDS Disturbed/Lost = 1,272.8 Total ReClaimed = 260 TOTAL NET WETLAND LOSS = 1,012.8 Acres (What are Cumulative Impacts??) (Per ONA MINE 2003 DEIS Chart: 4.2-2, yet: NO good charts on this in the DAEIS?) | Comment acknowledged. |
| 000000550-27 | POW & LBC, James Cooper | Environmental Organization | As you may or may not be aware, the recently CWA permitted Mosaic: South Ft Meade Mine Extension Project had been on hold for more than a year during a lawsuit (of which neither I nor either of my Environmental Groups: Protect Our Watersheds (POW) or Lemon Bay Conservancy (LBC) were a party to). Yet, upon learning of the basic settlement terms as discussed in the attached Sierra Club & FDEP news articles (attached to this Document- dated , I believe we now have the elements for a new Mitigation of Wetlands strategy which can be a win-win for all parties involved & at the same time follow the new 2008 Federal 40 CFR Part 230 law (specifically Para 230.91) dealing with | Comment acknowledged. |

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| | | | Compensatory Mitigation of Losses of Aquatic Resources. Press Release positive summary below: Environmental Groups Settle South Fort Meade Extension Lawsuit with Mosaic Press Release: Friday, February 24, 2012 2:00 am, by Doug Hayes, Sierra Club ST. PETERSBURG Sierra Club Florida, People for Protecting Peace River (3PR) and ManaSota-88 announced today that they have entered into a settlement with The Mosaic Company to resolve their Federal Court lawsuit challenging Mosaics South Fort Meade Extension (SFM extension) phosphate mine in Hardee County, Florida. The US Corps of Engineers permit for the mine allowed more than 7,000 acres of phosphate strip mining in the Peace River watershed. The plaintiffs lawsuit was filed in June 2010 in the United States District Court in Jacksonville and charged that the Corps permit was issued in violation of the National Environmental Policy Act and the Clean Water Act. The Court issued a preliminary injunction preventing mining under the challenged permit in July, 2011. The settlement will allow mining to proceed at the SFM extension. In return there will be major changes in the mining plan providing significant additional protections for the Peace River watershed. Among them: Significantly: Mosaic purchased the Peaceful Horse Ranch (PHR), a property of some 4400 acres at the confluence of the Peace River and Horse Creek, with nearly 8 miles of the Peace River frontage and nearly 6 miles of Horse Creek frontage, including largely pristine wetlands. PHR, which has some 3500 acres of wetlands, is on the States Florida Forever list as a property which is desirable for protection by the state. It is vital to the regions water supply, water quality, flood protection, and management of natural system. It has been identified as central to the strategy of providing connected conservation areas as well as wildlife corridors along the Peace River for the Florida Panther. Additional mitigation for the wetlands lost to mining in the challenged permit Mosaic will donate PHR to the state for a state park, along with $2 million to cover startup and initial maintenance costs. This acquisition and donation will make PHR a destination for hiking, boating and wildlife viewing. It will provide long term protection to the Peace River watershed and the Charlotte Harbor estuary and will supplement the Florida Forever protection program which | |

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| | | | has been hobbled by lack of funding. Link to Florida DEP's description of Peaceful Horse Ranch: http://www.dep.state.fl.us/lands/FFAnnual/B_PeacefulHorseRch.pdf At the SFM extension mine, mining will be set back from the Peace River and onsite perennial streams, creating additional buffers of approximately 42 acres. An additional 7 bayhead wetlands and buffers, comprising over 70 acres, will be removed from the mine plan and preserved in a Conservation Easement. Bayheads are key to the ecosystem and are very difficult, if not impossible to restore or recreate. Some 400 acres of land between the southwest mine border and the Peace River will be placed into Conservation Easement, providing additional protection for the river. | |
| 000000550-27 | POW & LBC, James Cooper | Environmental Organization | An area northwest of the site, and bordering the west side of the Peace will be placed into Conservation Easement. Two onsite streams will be enhanced with wetland treatment areas. Mosaic will enter into a long term water monitoring program, and an independent panel will be created to review Mosaics monitoring and restoration over time and to make recommendations where desirable. SUMMARY: The Peace River Watershed provides drinking water for hundreds of thousands of Floridians and the State of Florida, the EPA and Congress have designated the Watershed, and the downstream Charlotte Harbor estuary, as a Priority Watershed, an Aquatic Resource of National Importance and an estuary of national significance. It is home to endangered and threatened wildlife and fish and depends on freshwater flows from the Peace River. Bev Griffiths of the Sierra Club Florida Phosphate Committee said, This is a victory for everyone in Florida who values protecting the Peace River and increasing Floridas State Park System. We are pleased to be able to come to an working win-win agreement with Mosaic on these matters. Our settlement requests were based on the items which USEPA had identified as desirable prior to issuance of the Corps permit. We are very pleased to be able to implement these provisions in our settlement agreement. Percy Angelo of the Sierra Club committee added, Under this agreement some 5000 additional acres of land will be preserved and put into Conservation Easement along the Peace River and Horse Creek. Dennis Mader of 3PR added, Our lawsuit argued that the SFM extension | Comment acknowledged. |

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| | | | permit should not have been issued without an environmental impact statement (EIS) under NEPA and other review under the Clean Water Act. It was unfortunate that we were required to file suit to implement these statutory protections, but it is positive that Mosaic has agreed to adopt these very significant protections and we look forward to the addition of the PHR to our state park system. The settlement will be final when approved by the District Court & the lawsuit & pending appeals have been dismissed by: District Court & Appellate Court. What is most significant that this recent Settlement Model is precisely what the 2008 Federal Rules say how the Watershed Approach to Wetlands Mitigation should be handled. To include 5 years of Monitoring and Inspection by a new Citizen Scientific Wetlands Mitigation Oversight Group (County, State &Federal Agency appointed) and then inspected annually (Including EPA staff & ACE staff) prior to Mitigation wetlands final buffering, conservation easement, wildlife habitat, or wildlife corridor mitigation reclamation acceptance. This new concept which is EPA approved and watershed systems and functionality maintained based, appears to be a very proactive and positive results based, scientifically validated viable approach, well worth considering and certainly mentioning (NOW OMITTED?) in the next revised Supplemental Draft AEIS. | |

## Applicants' Proposed Alternatives

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| **Summary Comments** | | | | |
| **ALT-1** | **Support the Proposed Action** | | **These comments generally praise the prior activities by the mining companies. They comment on the economic benefits associated with the proposed projects and the importance of the projects to provide products necessary for agricultural needs. Commenters also note that the phosphate industry is an important component of the Chamber of Commerce's strategic plan related to jobs, communities, and global competition. Commenter also notes that the industry contributes to a number of organizations and include volunteers to support activities within the communities. There also is a comment supporting the economic benefits to the Tampa Port Authority. Commenters also note the importance of safe and effective fertilizers provided by the industry and the importance of this resource for the state of Florida and to the rest of the United States. Comments suggest the industries are burdened with the regulatory requirements that impact industry, job security, and the ability to provide food. Positive comments were received on the approach the USACE has taken in the NEPA process. They also comment on their various activities to mine without resulting in substantial environmental impact and note that restoration activities following mining meet designated uses, provide habitat for fish and wildlife, and expand recreation uses in the region.** | **Comments acknowledged.** |
| 000000024-1 | Mosaic Fertilizer LLC , Monica Schulz | Company | I truly believe the environmental impact will be very minimal if any at all. As far as Mosaic is concerned, they have always reclaimed the land to a better state than the original by putting the land to a good use after it is mined. Where there used to be just grass and old trees, Mosaic will relocate the trees, the animals and anything than can be affected, then they mine the land, recycle water and either plant something on that land or make it a public park for citizens to enjoy, or lakes for Floridians to fish and by the way the lakes have fish ready to go in them. I just cant imagine Florida without the positive impact mining has not only from the economic perspective but also the environmental aspect as well because going the extra mile to properly reclaim the land is awesome! I wish every Floridian would be more educated as to what is involving in mining and all the extra steps taken to | Included in summary response above. |

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| | | | protect people, animals and the environment in general. | |
| 000000025-1 | Chris Sutherland | Private Citizen | Our nation needs to be able to responsibly harvest and utilize our natural resources to provide for growing food, and providing income, energy, and taxes. We must find a way to responsibly access the value of the phosphate deposits in our land. Please do not over regulate this industry to the point that it no longer can provide for our food growth needs, and our economic needs. If we continue to burden our industries with impossible regulations, we will drive them out of existence. This will also run our jobs and the associated revenue out of our country as well and make us dependent on other nations for our food supply. | Included in summary response above. |
| 000000026-1 | Shale-Inland PVF, Joel Hanson | Company | I want to let you know that I fully support the phosphate industry here in Central Florida for a variety of reasons. My employer depends heavily on the business we do with the industry, therefore my personal job security relies on this business as well. I am sure you already know this is typical of a large number of people in Polk County and the surrounding areas where phosphate mining is done. The fiscal welfare of many co-workers, friends, and business counterparts is at risk if the industry is not treated fairly. In addition, the fertilizer that is produced is vital to our food supply - we can not afford to shut down or put undue pressure on this industry that produces such an important product and keeps so many of us employed. Thank you for hearing my comments. | Included in summary response above. |
| 000000028-1 | Al Wilcox | Private Citizen | I am a private citizen that has been following the phosphate mining permitting process for many years. The Phosphate Industry has demonstrated that they are highly ethical, excellent stewards of the Environment and striving to improve the way they do business. The industry is crucial to the financial well being of Central Florida and to the sustainability of agriculture in North America. I urge the Committee to approve these permits and allow Mosaic to proceed with providing Job and Financial Security for the Central Florida region. | Included in summary response above. |
| 000000029-1 | CF Industries, Jeff Walker | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well | Included in summary response above. |

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| | | | as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000030-1 | CF Industries, Mark Koretchko | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000031-1 | CF Industries, Harry Crosby | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000032-1 | CF Industries, Richard Johnson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000033-1 | CF Industries, Karen Johnson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

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| | | | family member. | |
| 000000034-1 | CF Industries, Gary Blitch | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000035-1 | CF Industries, Richard Ghent | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000036-1 | For CF, More trench, John Joyner | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000037-1 | CF Industries, Randy Roberts | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000038-1 | CF Industries, Teri Lawrence | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, | Included in summary response above. |

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| | | | and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000039-1 | CF Industries, Damon Lawrence | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000040-1 | CF Industries, Lindsay Harris | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000041-1 | CF Industries, Gary Braun | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000042-1 | CF Industries, Steve Vantcorenburg | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000043-1 | CF Industries, Jim Abbitt | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000044-1 | CF Industries, Wayne Westbrook | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000045-1 | CF Industries, Dara Broomfield | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000046-1 | CF Industries, Bill Hates | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000047-1 | CF Industries, Carmen Opderbeck | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000048-1 | CF Industries, David Tindell | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000049-1 | CF Industries, Shawn Hasly | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000050-1 | CF Industries, Ron Bigelow | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000051-1 | CF Industries, Terry Stutts | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000052-1 | CF Industries, Larry Rasmussen | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000053-1 | CF Industries, Michael Vickers | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000054-1 | CF Industries, Glen Zielinski | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000055-1 | CF Industries, John Dunn | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| | | | family member. | |
| 000000056-1 | CF Industries, Joel Messina | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000057-1 | CF Industries, Jerome Willis | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000058-1 | CF Industries, April Hasley | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000059-1 | CF Industries, Charlie Garrison | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000060-1 | CF Industries, Martin Nipper | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000062-1 | CF Industries, Charlie Woodham | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000063-1 | CF Industries, George Opderbeck | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000064-1 | CF Contractor, Kent Seavers | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000065-1 | CF Industries, Nick Katzaras | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000066-1 | CF Industries, Chuck Wylie | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000067-1 | CF Industries, Lon Brunk | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000068-1 | CF Industries, John Thurston | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000069-1 | CF Industries, Bill Graves | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| | | | family member. | |
| 000000070-1 | CF Industries, Andrew Lilly | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000071-1 | CF Industries, Joel Vogel | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000072-1 | CF Industries, Melissa Morton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000073-1 | CF Industries, William Morton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000074-1 | CF Industries, David Loaring | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000075-1 | CF Industries, John Thurston | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000076-1 | CF Industries, Vern Newsome | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000077-1 | CF Industries, Brett Belknap | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000079-1 | CF Industries, Keith Simpson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000080-1 | CF Industries, Harold Falls | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000081-1 | CF Industries, Scott Pryor | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000082-1 | CF Industries, Charles Ross | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000083-1 | CF Industries, Mark Wagers | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000084-1 | CF Industries, Randy Johnson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000085-1 | CF Industries, Charles T. Loyd | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000086-1 | CF Industries, Jill Loyd | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000087-1 | CF Industries, Joe Dalton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000088-1 | CF Industries, Gary Braun | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000089-1 | CF Industries, Helen Katzaras | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000090-1 | CF Industries, Jason Vo | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000091-1 | CF Industries, Herschel Morris | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000092-1 | CF Industries, Gerardo Guevara | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000093-1 | CF Industries, Leon G. Respress | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000095-1 | CF Industries, Devin Lawrence | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000096-1 | CF Industries, Vince Ritter | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000097-1 | CF Industries, Donald Bertram | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000098-1 | CF Industries, Tim Harvey | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000099-1 | CF Industries, Donna Schaubert | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000100-1 | CF Family Member, Richard D. Hurst | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000101-1 | For CF, Moretrench, David LaGrone | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000102-1 | CF Industries, Linda Hurst | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000103-1 | CF Industries, Bob Klobuchar | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000104-1 | CF Industries, Sherri Albritton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000105-1 | CF Industries, Wayne Albritton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000106-1 | CF Industries, Tammy Pohl | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000107-1 | CF Industries, Adam Platt | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000108-1 | CF Industries, Brian Pohl | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000109-1 | CF Industries, N. Ney Nix | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000110-1 | CF Industries, Mark Koretchko | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000111-1 | CF Industries, Trishia Koretchko | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000112-1 | CF Industries, Kelley Miller | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000113-1 | CF Industries - Family Member, Mandy Caruso | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000114-1 | CF Industries, Scott Caruso | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000115-1 | CF Industries, Jen Bernhaur | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000116-1 | CF Industries, Tim Casey | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000117-1 | CF Industries, Dan Wincker | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000118-1 | CF Industries, David Walker | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000119-1 | CF Industries, Bill Cook | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000120-1 | CF Industries, John Reschke | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000121-1 | CF Industries, Jose Colchado | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000122-1 | CF Industries, Kevin Chastain | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000123-1 | CF Industries, Howard Reeves | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000124-1 | CF Industries, Elizabeth Paredes | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000125-1 | CF Industries, James Harris | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000126-1 | CF Industries, Johnny Pollock | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000127-1 | CF Industries, John Scenna | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000128-1 | CF Industries, D. Scenna | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000129-1 | CF Industries, Harry Evans | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000130-1 | CF Industries, A.H. Simpson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000131-1 | CF Industries, Garr Gipt | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000132-1 | CF Industries, Ken Bennett | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000133-1 | CF Industries, John Benett | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000134-1 | CF Industries, Kevin Wehling | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000135-1 | CF Industries, Kim Pollock | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000136-1 | CF Industries, Brink Oviedo | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000137-1 | CF Industries, Sandford Egel | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000138-1 | CF Industries, Calli Ward | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000139-1 | CF Industries, Art Normand | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000140-1 | CF Industries, Elizabeth Paredes | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000141-1 | CFIndistries, Sanford Siegel | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000142-1 | CF Industries, David Brodshaw | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000143-1 | CF Industries, Chloe Crisp | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000144-1 | CF Industries, Diane Rescheke | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000145-1 | CF Industries, Joe Newton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000146-1 | CF Industries, Mark Wehling | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000147-1 | CF Industries, Freddrick Rhone | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000148-1 | CF Industries, Alfredia Rhone | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000149-1 | CF Industries, Bob Wann | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000150-1 | CF Industries, Anderson Holmes | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000151-1 | CF Industries, Joseph Cacioppo | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000152-1 | CF Industries, Jean W. Beawirl | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000153-1 | CF Industries, Ruth Kretschmar | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000154-1 | CF Industries, Ernest | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, | Included in summary response above. |

## Applicants' Proposed Alternatives

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| | Kretschmar | | and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000155-1 | CF Industries, Ray Phillips | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000156-1 | CF Industries, Tammy Leslie | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000157-1 | CF Industries, Jerry Leslie | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000158-1 | CF Industries, Michael W. Johnson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000159-2 | CF Industries, Troy Gotschall | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000160-1 | CF Industries, Harry Crosby | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000161-1 | CF Industries, Art Normand | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000162-1 | CF Industries, Ronald Barrentine | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000163-1 | CF Industries, Jay Blommel | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000164-1 | CF Industries, Ken Rull | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000165-1 | CF Industries, Lynne Vadelund | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000167-1 | CF Industries, Chan Blommel | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000168-1 | CF Industries, Herschel Morris | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000169-1 | CF Industries, Patrick Bolin | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000170-1 | CF Industries, Ronnie Eskelund | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000171-1 | CF Industries, Sheri Eskelund | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000173-1 | CF Industries, Tim Amison | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000174-1 | CF Industries, Melody Klobuchar | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000175-1 | CF Industries, Virginia Lawrence | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000176-1 | CF Industries, Kenny Miller | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000177-1 | CF Industries, Maureen Hess | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000178-1 | CF Industries, Reuben Long | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000179-1 | CF Industries, Jesse R. Gleason | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000182-1 | CF Industries, Larry Huckeby | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000183-1 | CF Industries, Vicky Adcock | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000184-1 | CF Industries, Michelle Sims | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000185-1 | CF Industries, Paul K. Cutchen | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000186-1 | CF Industries, Tony Salas | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000187-1 | CF Industries, Tracy Powell | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000188-1 | CF Industries, Peggy Bonds | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000189-1 | CF Industries, Grant Bonds | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000210-1 | CF Industries, Victor Gutierrez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000211-1 | CF Industries, Randy Warnock | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000212-1 | CF Industries, Ed Howard | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000213-1 | CF Industries, Bruce E Roberts | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000214-1 | CF Industries, Lance Roberts | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000215-1 | CF Industries, Mark Chavis | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000216-1 | CF Industries, Joe Tonnes | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000217-1 | CF Industries, Joshua Sneider | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000218-1 | CF Industries, Jaime Rosales | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000219-1 | CF Industries, Emilio Esquid (cannot read it) | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000220-1 | CF Industries, Jose Fernandez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000221-1 | CF Industries, Christopher Selph | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000222-1 | CF Industries, Adam Torres | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000223-1 | CF Industries, Hal Kersey | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000224-1 | For CF, T-N-T Reclamation, Lewis A Butler | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000225-1 | For CF, T-N-T Reclamation, Jose Torres | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000226-1 | CF Industries, Ashlee A Harrison | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000227-1 | CF Industries, Tony A Stone | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000228-1 | CF Industries, Angie Warmack | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000229-1 | CF Industries, Abigail Cifuentes | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000230-1 | CF Industries, Elias Ramirez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000231-1 | CF Industries, Jimmy Stevens | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000232-1 | CF Industries, JC Richardson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000234-1 | CF Industries, Michael Reyes | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000235-1 | CF Industries, Juan Gaona | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000236-1 | CF Industries, Juan Morales | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000237-1 | CF Industries, Teddy Cornett | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000238-1 | CF Industries, Tony Guajardo | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000239-1 | CF Industries, Mac McKay | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000241-1 | CF Industries, M....n (illegible) Da.... (illegible) | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000242-1 | CF Industries, Dean Crunk | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000243-1 | CF Industries, James Crawford | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000244-1 | CF Industries, Vernon Justesen | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000245-1 | CF Industries, T..... (illegible) Will.... (illegible) | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000246-1 | CF Industries, B Crawford | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000247-1 | CF Industries, Ronnie Abbott | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000248-1 | CF Industries, Alberto Mejia (?) | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000249-1 | CF Industries, Miguel Tinoco | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000250-1 | CF Industries, Adam Jimenez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000251-1 | CF Industries, Jaime Mendez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000252-1 | CF Industries, Clemente Cruz | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000253-1 | CF Industries, Alejandro Cruz | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | |
| 000000254-1 | CF Industries, Dustyn Waters | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000255-1 | CF Industries, Mitch Smith | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000256-1 | CF Industries, Dana Hawkins | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000257-1 | CF Industries, Clyde Ratliff | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | family member. | |
| 000000258-1 | CF Industries, Robert Selph | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000259-1 | CF Industries, Irvin Watson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000260-1 | CF Industries, Shane Shepard | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000261-1 | CF Industries, Pete DeLuna | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000269-1 | CF Industries, Anthony J Aguire | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000270-1 | CF Industries, Johnnie Adams | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000271-1 | CF Industries, Javier Mimenez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. I am a CF Industries employee, contractor or family member. | Included in summary response above. |
| 000000279-1 | Polk County, Grady Judd | County Government | Not only does Mosaic generously contribute financially to countless organizations that are positively impacting our county, but Mosaic's many volunteers donate thousands of hours every year to improve countless lives. The Mosaic organization doesn't just help communities exist - they help them thrive. Providing Mosaic the opportunity to continue operating their business responsibly would benefit our community and quality of life. | Included in summary response above. |
| 000000283-1 | CF Industries, Salvador Garcia | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000284-1 | CF Industries, Raul Santiago L | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000285-1 | CF Industries, Robert Wilhelm | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000286-1 | CF Industries, George Ames | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000287-1 | CF Industries, Jonathan Baggette | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000288-1 | CF Industries, R.E. Ramey | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000289-1 | CF Industries, Jason Pratt | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000290-1 | CF Industries, John Rossiter | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000291-1 | CF Industries, Mark Rude | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000292-1 | CF Industries, Joshua J Belanger | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000293-1 | CF Industries, James Bulmer | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In | Included in summary response above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000294-1 | CF Industries, Sam Strickland | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000295-1 | CF Industries, Giovanni Blanco | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000296-1 | CF Industries, Melba Boggs | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000297-1 | CF Industries, Jim Marsee | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000298-1 | CF Industries, Devin Hamilton | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000299-1 | CF Industries, Joe McBee | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000300-1 | CF Industries, Eric Huber | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000301-1 | CF Industries, Tony Karppe | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000302-1 | CF Industries, Kara Katzaras | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000303-1 | CF Industries, Lynda W Falls | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000304-1 | CF Industries, Valerie McBee | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000305-1 | CF Industries, Tommy Burnett | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000306-1 | CF Industries, David T Turner | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000307-2 | CF Industries, Travis Strickland | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | applicants. | |
| 000000308-1 | CF Industries, Jon Odum | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000309-1 | CF Industries, Ray Barker | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000310-1 | CF Industries, Sam Nicholson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000311-1 | CF Industries, Andrew Broomfield | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000312-1 | CF Industries, Lee Perkins | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000313-1 | CF Industries, A Quinn | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000314-1 | CF Industries, Sabrina O'Halloran | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000315-1 | CF Industries, Chris Jagars | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000316-1 | CF Industries, James M Frazier | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |

## Applicants' Proposed Alternatives

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| 000000317-1 | CF Industries, Dale Connell | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000318-1 | CF Industries, Lonnie Hicks | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000319-1 | CF Industries, Adam Hicks | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000320-1 | CF Industries, Jeremy Sanderson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000321-1 | CF Industries, Terrence Miller | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the | Included in summary response above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | applicants. | |
| 000000322-1 | CF Industries, Angel Hernandez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000323-1 | CF Industries, Cody Lewis | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000324-1 | CF Industries, Charles L Baughn | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000325-1 | CF Industries, Penny Stigi | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000326-1 | CF Industries, Gary Worley | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. | Included in summary response above. |

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| | | | I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000327-1 | CF Industries, Garry Sheffield | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000328-1 | CF Industries, Richard Beveard | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000329-1 | CF Industries, Steven Bach | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000330-1 | CF Industries, Jon S Wiggs | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000331-1 | CF Industries, William Singletary | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well | Included in summary response above. |

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| | | | as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000332-1 | CF Industries, Austin Buchholz | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000333-1 | CF Industries, Wayne Flott | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000334-1 | CF Industries, Joseph F O'Halloran | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000335-1 | CF Industries, Lauren Schelb | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000336-1 | CF Industries, James Bryan | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of | Included in summary response above. |

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| | | | Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | |
| 000000337-1 | CF Industries, Thomas S Adams | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000338-1 | CF Industries, Jeremy Robinson | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000339-1 | CF Industries, Jim Russo | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000340-1 | CF Industries, Ben Burnett | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000341-1 | CF Industries, Jeff Garren | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000342-1 | CF Industries, Vic Oberting | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000343-1 | CF Industries, David Collins | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000344-1 | CF Industries, Tony Chutter | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000345-1 | CF Industries, Calvin Hill | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | applicants. | |
| 000000346-1 | CF Industries, Steven Olliff | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000347-1 | CF Industries, Bill Wilhelm | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| 000000362-1 | Ben Albritton | Elected Official | Hardee and Polk Counties have relied on the phosphate industry as one of our largest employers for generations. Rural regions like Hardee County are often the hardest hit in times of recession. In Hardee, our largest employer is the government and as state budgets have contracted and positions were eliminated, many of our residents now find themselves without jobs. Fortunately, the phosphate industry is also one of our county's top employers. While other industries have struggled through these times, Mosaic and CF Industries prospered and their prosperity provides benefits to everyone through their community engagement efforts. Regulatory processes and the litigation that often follows can have devastating effects on rural areas like Hardee and southern Polk County. The South Fort Meade litigation and temporary job losses associated with it had a tremendous impact on my district. Special interest groups will do what they are going to do, but the Corps, EPA and Florida DEP have a duty to ensure the integrity of the AEIS and subsequent permitting processes for these projects. I encourage these agencies to maintain a collaborative approach with the applicants to address any concerns that arise without creating unnecessary controversies on issues that can be resolved through thoughtful negation and discussion. As we saw with | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | South Fort Meade, agency interactions on issues that could be resolved through discussion can become the fuel for litigation that ultimately harms families within my district. After much stress and strain, the families that depend on that facility now have security for the next ten years, but the financial hardships they faced were not necessary. It's my hope that the agencies will act in good faith as they review these projects. I hope the Corps, EPA and DEP will consciously work to maintain the integrity of the entire process, so that the process cannot serve as a weapon for outside interests to attack the economic well-being of my constituents. It's important that you hear and evaluate all concerns in this process, but it's also vitally important that you recognize that how you deal with those concerns affects more than just the applicant and those special interests. Thousands of families in my district are depending on this. | |
| 000000379-1 | The Fertilizer Institute, William C Herz | Non-profit Organization | It is safe to say that Florida's phosphate operations are a part of the backbone of agriculture in our country and that meeting our phosphate needs domestically frees us from reliance on less stable foreign sources. The Corps must continue to consider the importance of the unique and irreplaceable asset this country has in its domestically produced phosphate. Phosphate fertilizers are also a globally traded commodity, and it is important for domestic producers to have a cost structure that allows them to remain competitive in this global marketplace. Considering the major sources of foreign phosphate are in Morocco, Jordan and 1 U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 2-73. 2 U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 1-11. 3 Mineral Commodity Summaries 2012, (2012, January) U.S. Geological Survey 4 U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 1-11. 5 U.S. Army Corps of Engineers. Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. Page 1-12. Army Corps of Engineers July 31, 2012 Page 3 Syria (and the comparative lack of costly regulations of those sources), this presents serious economic | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | and food security concerns. The Corps should continue to emphasize this fact. The Corps must prioritize the necessity of phosphorus to agriculture while acknowledging the dire supply shortage the U.S. will face if no additional mining permits are granted in the coming years. | |
| 000000379-3 | The Fertilizer Institute, William C Herz | Non-profit Organization | The U.S. Department of State (USDS) asserts demand for food is projected to increase by 50 percent over the next 20 years to accommodate a population of 9 billion by 2050.9 Improved agricultural productivity, via the efficient use of all fertilizers, including phosphate fertilizer, is essential to reduce hunger. In the USDS Global Hunger and Food Security Initiative, USDS points to U.S. investments increasing access to agricultural inputs such as seed, feed, fertilizer and irrigation systems... TFI agrees with the USDS's position and encourages the Corps ensure interagency alignment in policies affecting food production and hunger. | Included in summary response above. |
| 000000379-6 | The Fertilizer Institute, William C Herz | Non-profit Organization | TFI takes great interest in the permit applications because phosphate a key ingredient in fertilizer is essential to meet the needs of a growing world. Commercial fertilizers are now responsible for 40 to 60 percent of world food production. Phosphate is an essential nutrient that cannot be substituted by other fertilizers as it plays a unique role in plant growth. U.S. farmers use about 21 million nutrient short tons of nitrogen, phosphate, and potash each year in the form of chemical fertilizers, helping to sustain high U.S. crop yields.6 Use of nitrogen or potash fertilizer is not a substitute for phosphate fertilizers because phosphate plays a unique role to plant growth that nitrogen and potash cannot fulfill. The sources of the nitrogen has changed markedly in recent years from domestic to foreign suppliers, making the U.S. increasingly dependent on nitrogen fertilizer imports. Today the U.S. imports over half of the nitrogen supply. Due to limited potash reserves in the United States, the U.S. relies upon imports for approximately 85 percent of its potash needs. The picture is different for phosphate though, most of which comes from domestic production. The U.S. phosphate fertilizer industry is one of the largest in the world, producing 13.9 percent of all phosphate rock and exporting 27.2 percent of all processed phosphate in the world in 2010.7 This makes the U.S. the largest exporter of ammonium phosphate fertilizers.8 It is vitally important to our economy that Florida | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | and the U.S. help maintain this net export status by continuing to mine phosphate in Florida to maintain a homegrown supply for domestic fertilizer plants. A reduction in domestic phosphate supply jeopardizes U.S. food security by placing the majority of fertilizer manufacturing in the hands of politically tumultuous countries like Syria 6 Commercial Fertilizers 2010. (2011 December). Association of American Plant Food Control Officials. 7 Processed Phosphates Statistics 2010, (2011, October). International Fertilizer Industry Association. 8 id | |
| 000000380-1 | American Farm Bureau Federation, Angela Black | Non-profit Organization | The Corps needs to continue to present a clear picture of the unique and irreplaceable asset this country has in its domestically produced phosphate. These factors, as recognized in the Draft AEIS, need to be paramount as the Corps evaluates the pending phosphate mining permit applications. Farm Bureau supports phosphate mining because the use of safe and effective fertilizers enables American farmers to grow healthier crops and produce greater yields per acre. In turn, this requires less land for farming and puts less development pressure on wilderness areas that may have been utilized for agricultural purposes. In fact, due to the availability of fertilizers, farmers are able to produce twice as many crops as in the 1950s on the same amount of land. Furthermore, 75 percent of the phosphate used by farmers and even home gardeners across America comes from the state of Florida. Farm Bureau commends the Corps on the comprehensive nature of its study, the science-based approach it has taken, and its efficient use of the National Environmental Policy Act process by establishing and keeping to a schedule for the Draft AEIS. Farm Bureau urges the Corps to adopt an equally efficient and effective process to complete its review of the pending phosphate permit applications, and to issue the permits promptly upon completion of the Draft AEIS. Farm Bureau supports the issuance of the requested permits so Florida phosphate mining may continue to provide the vital ingredients needed to keep farmers crops thriving so they can continue to meet the growing demand for food around the world. Phosphate ore unnecessarily left in the ground is a lost resource for agriculture. Farm Bureau encourages you to allow mining to move forward so that the many benefits of this critically | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | important resource can be realized by farmers and consumers across America. | |
| 000000381-1 | Mosaic, Walter Jones | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000382-1 | Mosaic, Sam Talbot | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000383-1 | Mosaic, Lyle Cassell | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000395-1 | Mosaic, Jimmy E Hill | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000398-1 | Mosaic, Lucy Terrill | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000399-1 | Mosaic, Alan W Padgett | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000400-1 | Mosaic, Jason Callaway | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

## Applicants' Proposed Alternatives

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| 000000401-1 | Mosaic, Vance B Markel | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000402-1 | Mosaic, Calvin A Barber | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000403-1 | Mosaic, Michael D Strickland | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000404-1 | Mosaic, Clarence Williamson | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000405-1 | Mosaic, Marvin R Altman | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000406-1 | Mosaic, Edgar Butler | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000407-1 | Mosaic, Deanna M Thompson | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000408-1 | Mosaic, Gene Grissom | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

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| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000409-1 | Mosaic, Guy Oldenburg | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000410-1 | Mosaic, Carlos Novo | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000411-1 | Mosaic, Rodger Fowler | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000412-1 | Mosaic, Frank L Howell | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000413-1 | Mosaic, Larry Simpson | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000414-1 | Mosaic, David Stumpe | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000415-1 | Mosaic, Chris Oakes | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

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| 000000416-1 | Mosaic, Patricia Freeman | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000417-1 | Mosaic, Diane Clark | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000418-1 | Mosaic, Trena Topper | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000419-1 | Mosaic, Sandra Patrick | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000420-1 | Mosaic, Mandurs Peterson, III | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000421-1 | Mosaic, Russell Davis | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000422-1 | Mosaic, Ron Kobosky | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000423-1 | Mosaic, William Vaughn | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

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| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000424-1 | Mosaic, Katrina Proffit | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000425-1 | Mosaic, Daniel K Tucker | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000426-1 | Mosaic, Melinda Miller | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000427-1 | Mosaic, Craig Sweet | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000428-1 | Mosaic, Jason VanVleet | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000429-1 | Mosaic, David Crum | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000432-1 | Mosaic, Sandra Hagan | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desota and Wingate East mine permits. | Included in summary response above. |

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| 000000433-1 | Mosaic, John M Smith | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desota and Wingate East mine permits. | Included in summary response above. |
| 000000434-1 | Mosaic, Robert Butt | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000435-1 | Mosaic, Jeamethe Matthews | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000436-1 | Mosaic, Emanuel Hicks | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000437-1 | Mosaic, Jerry Cox | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000438-1 | Mosaic, Paul Deatan | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000439-1 | Mosaic, Fred Wu | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000440-1 | Mosaic, Julius L Chorba | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

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| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000441-1 | Mosaic, Wesley Todd Smith | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000442-1 | Mosaic, Harry Skible | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000443-1 | Mosaic, Gail Gower | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000444-1 | Mosaic, Glen Wilkes | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000445-1 | Mosaic, Bette Jo Evans | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000446-1 | Mosaic, Neal William Lawn | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000447-1 | Mosaic, Andrew R Grant | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

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| 000000448-1 | Mosaic, Doyle Surface | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000449-1 | Mosaic, Robert Dyke | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000450-1 | Mosaic, Shela Stone | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000451-1 | Mosaic, Gilbert Langston | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000452-1 | Mosaic, Dorinda Blanton | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000453-1 | Mosaic, Kyle Young | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000454-1 | Mosaic, Ash (Name was destroyed in mail) | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000455-1 | Mosaic, Angel Del Collado | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000456-1 | Mosaic, James Thompkin | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000457-1 | Mosaic, David Sorg | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000458-1 | Mosaic, Carlos Velasquez | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000459-1 | Mosaic, Mauricio Rojas | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000460-1 | Mosaic, Mark L Dunnam | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000461-1 | Mosaic, Tricia Combee | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000462-1 | Mosaic, Dan Bostrom (Illegible last name) | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| 000000463-1 | Mosaic, Josh Adams | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000464-1 | Mosaic, Doug Simmons | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000465-1 | Mosaic, Rick Warner | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000466-1 | Mosaic, Scott Yeo | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000467-1 | Mosaic, Wayne Scott | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000468-1 | Mosaic, Susan Duva | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000469-1 | Mosaic, Michele Lynch | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000470-1 | Mosaic, Heath Muncy | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000471-1 | Mosaic, Kenneth R Paulsson | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000472-1 | Mosaic, Justin Boyette | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000473-1 | Mosaic, Barry Hankinson | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000474-1 | Mosaic, George Myers | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000475-1 | Mosaic, Chester Sykes | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000476-1 | Mosaic, Paul Samuels | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000477-1 | Mosaic, James P Andrus | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| 000000478-1 | Mosaic, Lisa Bradburn | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000479-1 | Mosaic, Charlotte Brittain | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000480-1 | Mosaic, Brian Albritton | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000481-1 | Mosaic, Bryan Dhue | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000482-1 | Mosaic, Oscar L Watson Sr | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000483-1 | Mosaic, Tommy Beattie | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000484-1 | Mosaic, Sylvia Wiggins | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000485-1 | Mosaic, Janet Mathers | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000486-1 | Mosaic, Brian D Ball | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000487-1 | Mosaic, Rock Roberts | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000488-1 | Mosaic, Matthew Berg | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000489-1 | Mosaic, Hermann Wittje | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000490-1 | Mosaic, Wade Nunnelly | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000491-1 | Mosaic, Adam Bess | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000492-1 | Mosaic, Ronald Layton | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| 000000493-1 | Mosaic, Jerome Allen | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000494-1 | Mosaic, Donald J Adams | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000495-1 | Mosaic, Daniel Green | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000496-1 | Mosaic, Robert Peterson | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000497-1 | Mosaic, Steven K Smith | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000498-1 | Mosaic, Tim & Pam Keeney | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000499-1 | Mosaic, Tasmond Hunter | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000500-1 | Mosaic, Steven Evans | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000501-1 | Mosaic, James Uzoarims | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000502-1 | Mosaic, Michael Ziegelhofer | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000503-1 | Mosaic, Robert Pitman | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000504-1 | Mosaic, Lonnie L Harris | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000505-1 | Mosaic, Ron Green | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000506-1 | Mosaic, Mike DePianta | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000507-1 | Mosaic, Allen Hendrickan | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

## Applicants' Proposed Alternatives

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|---|---|---|---|---|
| 000000508-1 | Mosaic, Susan Suarez | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000509-1 | Mosaic, Colin Weyrauch | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000510-1 | Mosaic, Brian Meyers | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000511-1 | Mosaic, Martha Monfried | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000512-1 | Mosaic, Thomas Howell | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000513-1 | Mosaic, Al & Dianne Schuman | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000514-1 | Mosaic, Yaroslav Zaitsev | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000515-1 | Mosaic, Glen Oswald | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

## Applicants' Proposed Alternatives

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| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000516-1 | Mosaic, Gary Toczek | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000517-1 | Mosaic, Norman Crosby | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000518-1 | Mosaic, Kathy Beglone | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000519-1 | Mosaic, David R Hummel | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000520-1 | Mosaic, Everett Gallon | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000521-1 | Mosaic, Sheryl Hummel | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000522-1 | Mosaic, Jeff Stewart | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000523-1 | Mosaic, Conau Dunne | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000524-1 | Mosaic, Reese Withers | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000525-1 | Mosaic, Mike Daigle | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000526-1 | Mosaic, Jon Heaser | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000527-1 | Mosaic, Grady T Hancock | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000528-1 | Mosaic, Keith T Mosley | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000529-1 | Mosaic, Robert Jeffery Linne | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000530-1 | Mosaic, William G Wolf | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, | Included in summary response above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | |
| 000000531-1 | Mosaic, Ashish Jain | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000532-1 | Mosaic, Rogerio Nole | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000533-1 | Mosaic, Richard D Blair | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000534-1 | Mosaic, Charles Cates | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000535-1 | Mosaic, James R Lewis | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000536-1 | Mosaic, Shain Downs | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000537-1 | Mosaic, Robert Jones | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |

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| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
|---|---|---|---|---|
| 000000538-1 | Mosaic, Jeanine M (Illegible - damaged in the mail) | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000539-1 | Mosaic, Robert Kennelley | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000540-1 | Mosaic, Patrick Tryon | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000541-1 | Mosaic, Gary Augensen | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000558-1 | Caterpillar Global Mining Field Service, Ron Rader | Company | I urge your support of the four pending permit applications and look forward to the finalization of the AE15 which we hope will continue to reflect the far-reaching economic connection between the proposed mines and the industries which operate to support them. | Included in summary response above. |
| 000000566-1 to 000000626-1 | Mosaic, Various Supporters | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000627-1 | CF Industries, Jorge A. Yanez | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000628-1 | Mosaic, Chris Schuler | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 000000629-1 to 000002578-1 | Mosaic , Various Supporters: Arrmaz Custom Chemicals (4), Bul-Hed Corporation (28), Central FL Diesel (1), Citrus Air Conditioners, Inc. (35), CMW, Inc. (1), Custom Drilling (1), EEE (2), FHS (1), Mosaic (1868), RSS Field Services (1), S Products (6), Safety Products (1), T&R Management (1) | Company | I support the Florida phosphate industry, the U.S. Army Corps of Engineers Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District, and approval of The Mosaic Company's Ona, Desoto and Wingate East mine permits. | Included in summary response above. |
| 0000002579 to 0000002584 | CF Industries Supporters (6) | Company | I am confident that the projects described in the draft AEIS provide significant environmental protection for Floridians, and that no future limitations on mining are necessary. In addition, phosphate mining is critical to the economy of Central Florida. We need the nutrients for our crops, as well as the jobs and economic benefits that the industry provides. I urge the ACOE to approve the projects as proposed by the applicants. | Included in summary response above. |
| **ALT-2** | **Oppose the proposed action** | | **Comments suggest that mines alter the landscape, endanger the health of the citizens, affect the water supplies, remove rangeland, and endanger Charlotte Harbor estuary. The commenters note the concern of mining flow to the Horse Creek, Peace River, and Charlotte Harbor. There's also concern about water quality, water quantity, and wetland losses related to mining. Commenters note that impacts to the communities are more significant than the economic benefits for the proposed projects relative to changes in** | **Comments were received generally in opposition to the proposed actions, raising concerns about the potential for impacts to the public health, water supplies, rangeland, surface water flows, water quality, economics, and other environmental factors. Response: The evaluation of impacts to the landscape, water resources in the Charlotte Harbor Estuary and ecological resources are discussed in detail in Chapter 4 of the Final AEIS and Appendices D F, and G. Economic impacts, both negative and positive are also** |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | **landscape and loss of renewable resources. Comments also indicated need to obtain phosphate from other parts of the world than Florida. Commenters note that fewer jobs are produced than claimed, that groundwater is withdrawn without paying a fee, and that post-mining lands are left in questionable condition. One commenter proposes that the mining has affected tidal activity and migratory birds.** | **described in detail in Chapter 4 and Appendix H. Post-mining activities which include state reclamation requirements and federal restoration requirements are also discussed in Chapter 5 as is mitigation. The issue of importing rock from other parts of the world is also discussed in the Final AEIS.** |
| 000000277-2 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | We feel the AEIS fails or incompletely addresses some of our concerns as they pertain to the waters that enter our county. | Included in summary response above. |
| 000000355-4 | Sarah Hollenhorst | Private Citizen | I believe as per Executive Order 11988-floodplain management that the only practicle alternative in order to avoid direct and indirect development of floodplain development in this case, as the area is subject to extreme variations from drought to flooding, endangering the water supply and local residents with the threat of broken berms of large slime ponds, is no action. | Included in summary response above. |
| 000000355-7 | Sarah Hollenhorst | Private Citizen | These mines will permanently alter the landscape of desoto county, endanger the health of its citizens, stress the watersupply to the region, remove valuable range land, and endanger the charlotte harbor estuary. I believe all permits should be denied. | Included in summary response above. |
| 000000372-5 | Rachel Renne | Private Citizen | To allow this mining to proceed would be a detriment to the quality of the environment in the southern region of the Central Florida Phosphate District. The costs of such violent disruption to the wetlands and natural communities that remain in this region are difficult to quantify, but will prove to be much higher than the gains in phosphate revenues, severance taxes, and wages and salaries from the operation. Phosphate is a nonrenewable resource which entirely re-sculpts the landscape; an aerial view of the northern reaches of the Central Florida Phosphate District reveal little more than a network of pale-blue of settling ponds and pits. Our region of southwest Florida has many other renewable resources (such as agriculture and tourism) that will prove, ultimately because of their renewability, so much more precious than phosphate. | Included in summary response above. |

## Applicants' Proposed Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000377-6 | Dr. Margaret M Niklas, BS Biology, DVM | Private Citizen | In light of the devastating effects of phosphate mining to the environment that sustains human and wildlife in the Central Florida Phosphate District, we implore you not to approve the commencement of mining operations in these areas. The risks are too high to account for the benefits. There are other places in our country and in the world from which phosphate can be mined without destroying the unique ecosystems that we call the wetlands of Florida | Included in summary response above. |
| 000000542-8 | Percy Angelo | Private Citizen | The graph tells us that we are about to enter the second major era of phosphate mining and mining destruction; yet the DAEIS never addresses this reality. Instead the DAEIS, and the industry, acknowledge serious problems in the past but claim the future will be different. | Included in summary response above. |
| 000000550-36 | POW & LBC, James Cooper | Environmental Organization | My Major Overall DAEIS Assessment: My review has been limited due to extensive length of the 1,200 page document and the limited and totally inadequate 60 Day Public Comment Period. My assessment: The DAEIS as presently written is fatally flawed it & requires a major re-do. I am going on record as being in fully support of: the 7 other sets of recent County & Agency Region-wide Public Comments to you, which all list: Fatal Flaws in the current DAEIS: (1) 4-Environmental Groups: POW, Sierra Club, 3PR & Manasota 88, (2) Lee County BCC, (3) Charlotte Co. BCC, (4) Sarasota Co. BCC, (5) Manatee Co. BCC, (6) The CHNEP, and (7) the PRMWA. | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **OS ALT-1** | | | **Commenter requested that proposed buffers and setbacks be given serious evaluation and consideration.** | **In the Final AEIS, Chapter 5 discusses buffers and setbacks as part of a conceptual mitigation framework that the USACE may apply in the project-specific CWA Section 404(b)(1) analysis. Floodplain-related impacts and avoidance are discussed in Section 4.1 and 4.5 of the Final AEIS.** |
| 000000272-37 | Sarasota County, FL, Christine Robinson | County Government | In addition, in association with the 24 AEIS Alternatives to be assessed in more detail, provide a scenario table estimating and assessing the acres and types of wetlands that could be avoided by excluding mining within the 100 year floodplains of the Myakka and Peace River watersheds as applicable to the currently proposed mines, the potential future mines, and the alterative polygons illustrated in Figure 2-36. | Included in summary response above. |
| 000000272-40 | Sarasota County, FL, Christine Robinson | County Government | Page 5-24 of the DRAFT AEIS indicates that habitats are typically avoided by the phosphate mining companies and are preserved include riverine systems and associated floodplains, large herbaceous wetlands, mature upland forests, and xeric upland habitats. Given that it is typical that these habitats are routinely avoided by the phosphate mining companies, all applicable tables and graphics should be revised to illustrate these habitat areas within the currently proposed mines, the potential future mine areas, and the alternative polygons to identify these habitat areas as potential no-mine areas, or industry-committed no-mine areas. In addition appropriate setbacks or buffers outside these areas should also be described and/or illustrated. | Included in summary response above. |
| 000000272-42 | Sarasota County, FL, Christine Robinson | County Government | Section 4.10 describes the application of mining exclusion zones around major streams, river corridors, perennial and intermittent streams, and special ecological habitats (whether upland or wetland). It is recommended that ACOE perform further analysis and establish criteria for the application of buffers of 1,500, 3000, and 6000 feet based on site-specific resources, habitats, and mine configurations within the watershed(s). Staff Supports the premise described that greater buffer widths should be required in headwater systems. Page 4-154 indicates that developing buffers tailored to specific location offers challenges in consistency and monitoring over the life of a project. However, because floodplains, wildlife corridors, and environmental features are non-linear, staff supports variable width buffers where | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | additional resource and habitat protection could be achieved when compared to a linear standard distance width from the resource. Where variable width buffers are not appropriate, it is recommended that the DRAFT AEIS be revised to establish criteria sets default minimum width buffers outside the 100 year floodplain as no mine areas to maximize floodplain protection, water quality, wetland impact avoidance, habitats, containing listed species. | |
| 000000272-43 | Sarasota County, FL, Christine Robinson | County Government | Section 4.10 describes the effects of applying geographical exclusions and buffers to provide protection to ecological resources, streams, and the Peach River Greenway, however no conclusions or intended actions were described. The DRAFT AEIS needs to be revised to provide conclusions of the 1,500, 3,000, and 6,000 feet buffer analysis and to provide recommendations of the most appropriate buffer width(s) to require in appropriate areas of the four proposed mines. | Included in summary response above. |
| 000000272-45 | Sarasota County, FL, Christine Robinson | County Government | The DRAFT AEIS indicates the following for the four proposed mines: - Current plans for the DeSoto Mine call for avoiding the 100 year flood plain for Horse Creek and its tributaries and the forested riparian habitat of a Buzzards Roost tributary south of SR70. - The current plan for the Ona Mine proposes to avoid the forested riparian habitat of the West Fork of Horse Creek, the 100 year flood plain of Horse Creek, 749 acres of the forested riparian habitat of Brushy Creek, and 110 acres of a large headwater forested wetland. - The current mine plan for the Wingate East Mine includes avoidance of the 25 year floodplains of the West Fork Horse Creek and Myakka River - The current plans for the South Pasture Mine proposes that nearly all of the intact natural stream segments associated with Brushy, Lettis, and Troublesome Creeks are proposed for protection within the No-Mine area; however impacts to a small set of more-or-less natural stream segments will occur, Additionally, 96% of the bay swamp acreage on the property will be preserved in perpetuity. Given that valuable functions are provided by the floodplains alone, as well as the wetlands, uplands, listed species, that frequently are present in floodplain areas, it is recommended that the DRAFT AEIS be revised to illustrate as an overlay the 100 year floodplain for the currently proposed mines, future mines, the South Hardee County South Segment, and each of | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | the AEIS Alternative polygons. | |
| 000000272-47 | Sarasota County, FL, Christine Robinson | County Government | Further, an analysis should be performed to assess the protection of wetlands, water quality, listed species etc. achievable via designating areas of the 100 year floodplain as no-mine areas in comparison to the protection achievable by designating the potential 1,500, 3,000, and 6,000 foot buffers described in Chapter 4 as no-mine areas. | Included in summary response above. |
| 000000280-2 | Lee County, FL, Roland Ottolini, P.E. | County Government | Although there are some promising alternatives that offer buffers from critical environmentally sensitive land, it is hard to determine what the overall value and reduction of impacts will be, based on the simplistic methodology incorporated into the study. | Included in summary response above. |
| 000000280-8 | Lee County, FL, Roland Ottolini, P.E. | County Government | 5. Numerous alternatives are considered to the applicants proposal, including buffers and setbacks from stream corridors and preservation of significant environmental lands. These should be given serious consideration in formulating a selected plan by the Corps, demonstrating reduced impacts and opportunities where mining can co-exist with the natural system. | Included in summary response above. |
| 000000280-37 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.3.2 Potential Ecological Effects on the Applicants Proposed Mine Locations Nearly 49 miles of streams impacted is a disturbing figure. Minimization and avoidance of theses impacts should be a priority in alternatives chosen. | Included in summary response above. |
| 000000280-43 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.10 Onsite Alternatives These should be given serious consideration in formulating a selected plan by the Corps, demonstrating reduced impacts and opportunities where mining can co-exist with the natural system. | Included in summary response above. |
| 000000280-44 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 4-156, Table 4-55 The on-site buffer analysis includes buffer setback widths of a minimum of 1,500 feet. Although this would provide substantial protection for sensitive areas, the amount of land that would be precluded from mining makes this alternative in its current form infeasible. Buffers of less than 1,500 feet should be evaluated. Narrower buffers would provide reduced protection but may be considered more feasible. | Included in summary response above. |
| 000000281-29 | Sandra Ripberger | Private Citizen | 4-158 Buffers of 1500, 3000 and 6000 feet are introduced briefly but not considered seriously in the AEIS. The maps show how much of the sites would be avoided as in Wingate | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | East where wetlands are of high quality, reductions in mineable area would be substantive. The illustrations show how much of each site should not be mined. CLIP priority area and stream buffers would preserve valuable ecosystems and streams and should be incorporated in permitting. | |
| 000000349-25 | Robert Fellman | Private Citizen | Executive Summary and Chapter 4 Section ES6.1 Pages: Various in both ES and Chapter 4 Issue: Need for UMAM Score vs Mineable Acreage Tabulation Comment: There are a number of tables presented in Chapter 4 and in the Executive Summary showing the relationship between setback allowances and acreage removed from mining. These tables cover a variety of ecological features such as perennial streams, "Greenways", etc. Mosaic's permit application used a UMAM score of .7 to determine High Value wetlands worthy of setback protection. The AEIS needs to have a tabulation showing for each of the Alternatives a net Mineable Area vs UMAM score to illustrate the effect of preserving lesser valued wetlands. Presumably, (see Fellman Comment #24 above) Mosaic would not deem a restored wetland it committed to at the Feb 2, 2012 Meeting of the Manatee County Commissioners as a candidate for setback protection. | Included in summary response above. |
| 000000369-1 | Manatee County, FL, Ed Hunzeker | County Government | 1. ES.6.1: The Executive Summary makes the statement that "comparative analysis were performed of the relative effects of imposing these conceptual buffer areas around wetlands that scored high using either WRAP or UM A M..." Besides this paragraph in the Executive Summary and Tables ES-9 and ES-11, further discussion of the analyses was not found in the draft AEIS. | Included in summary response above. |
| 000000369-5 | Manatee County, FL, Ed Hunzeker | County Government | 1. Section 2.2.3, Onsite Alternatives, Page 2-8: Manatee County staff supports the application of buffers around unique habitats or habitats with protected species in order to provide against direct impacts to these habitats. However, the spatially defined buffer zones used in this analysis are too large to provide reasonable or practical alternatives. See additional comments under Chapter 4. | Included in summary response above. |
| 000000369-26 | Manatee County, FL, Ed Hunzeker | County Government | 4. Section 4.10, Page 4-154: The analysis in Chapter 4 should be rerun using reasonable buffer widths that are based on scientific studies2. Consideration should be given for any State or County mandated buffer zones or setbacks from wetlands, floodplains, residential areas, roadways, and perennial | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | streams. | |
| 000000371-11 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | It seems logical that more reasonable buffers should have been evaluated in order to reduce impacts, rather than analyzing buffers which obviously would have negated most (if not all) mining over most of the proposed sites. Set back distances of 250, 500 and 1500 feet would have been much more realistic buffer sizes to evaluate given both the literature and obvious economic impacts to mining of the actual selected buffer alternatives? Recommend that given the amount and distribution of wetlands/streams/high value habitats on the proposed sites, that this entire section of analyses be redone using more realistic buffer widths. | Included in summary response above. |
| 000000371-27 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Why were such large buffers selected when it was intuitively obvious that the results were going to show them to be economically unjustifiable? There are many instances in Florida where buffers have been used effectively to provide environmental benefit around wetlands and streams. Existing literature and water management studies have evaluated buffers a fraction in size to those evaluated in the AEIS. Scoping suggestions made by "some" for the possible use of unrealistic buffer sizes is no justification for actually applying them in the analyses without also using some more realistic sizes. It wouldn't be that hard using GIS to add additional analyses for much more realistic buffer sizes. | Included in summary response above. |
| 000000371-60 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Habitat Evaluation. Rather than use all or nothing could priority scores be used to set buffers around wetlands and rare/unique habitats? The AEIS should consider combining variable buffers based on scoring. The approach seems reasonable, as long as its application accounted for contiguous groupings of outparcels and reasonable mining constraints. The buffer sizes evaluated in the AEIS seem almost to be of such unreasonable sizes as to preclude any use of buffers as an effective method of on-site mitigation. | Included in summary response above. |
| 000000371-74 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | On-site alternatives used buffers of 1500, 3000 and 6000 feet. These alternatives seem a bit unreasonable in that almost by definition the larger buffers were bound to make mining economically difficult. There are many instances of environmental buffers being applied in Florida with ranges from 1500 feet down rather than up. o A cynical observer might suggest that the unreasonably large buffers were | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | selected to fail, rather than using a more reasonable approach based on existing buffer criteria used in other instances for the protection of Florida wetland habitats. | |
| 000000371-80 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | On-site Alternatives "Buffers have been imposed for many projects in Florida and elsewhere to provide a zone of protection between the proposed activity and streams, wetlands or other areas that may benefit from such a setback. Benefits provided vary with the resource to be protected and the type and width of buffer". "Imposed" seems a bit negative, wouldn't "utilized" been more appropriate? The justification for using 1500, 3000 and 6000 ft as buffers is stated as being based on scoping comments that buffers up to half a mile might be evaluated, while at the same time the AEIS states that much smaller buffers have been suggested/applied for wetland protection. It seems only logical that more reasonable buffers should have been evaluated, rather than analyzing buffers which obviously would have negated most (if not all) mining over most of the proposed sites. The set back distances of 250, 500 and 1500 feet would have been much more realistic buffer sizes to evaluate given both the literature and obvious economic impacts to mining of the actual selected buffer alternatives? Recommend that given the amount and distribution of wetlands/streams/high value habitats on the proposed sites, that this entire section of analyses be redone using realistic buffer sizes using more realistic buffer widths. | Included in summary response above. |
| 000000373-6 | Audubon Florida, Eric Draper | Environmental Organization | Health of wetlands, streams and floodplains impacted directly by phosphate mining and reclamation activities and the benefit of buffers and avoidance: Audubon urges avoidance and minimization of impacts to wetlands, streams and floodplains . These habitats are most likely to host birds. Note that Audubon ornithologist Herb Kale counted 169 different species in this region in areas that had and had not been mined. In addition to the three buffers modeled in the draft, the AEIS could additionally evaluate other site specific buffers. Where wetlands, streams and floodplains cannot be avoided, on-site mitigation and reclamation should be designed to reduce the period of loss of function. The draft demonstrates that during pre-mining and mining activities the surficial aquifer system is drawn down. This has the potential to harm, at least temporarily, wetlands. The final AEIS should include | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | information about loss of wetland function during dewatering and how to compensate for it. Where appropriate, mitigation could include compensation for these short-term impacts. | |
| 000000390-7 | Just the Facts | Non-profit Organization | The CLIP priority area and stream buffers are a positive aspect of the AEIS. | Included in summary response above. |
| 000000397-13 | US Environmental Protection Agency, William L Cox | Federal Agency | The project and mine configurations to be included in the FAEIS should demonstrate a greater degree of wetland impact avoidance and minimization, and should be substantively reviewed and discussed further in close consultation with EPA and the Applicants. | Included in summary response above. |
| 000000430-15 | USGS, Arturo E Torres | Federal Agency | The Conceptual Buffer analysis for wetlands uses unrealistically large buffer widths (greater than a quarter of a mile, half a mile, and a mile in width) that would be impossible to implement and are inconsistent with regulations in other jurisdictions. The proposed alternatives suggested by the conceptual buffer analysis would result in huge areas being excluded from mining and vast deposits of rock rendered unmined. The derivation of these buffer widths (1,500 ft; 3,000 ft; 6.000 ft) is undocumented and appears arbitrary. For example, Hillsborough County has proposed wetland buffer widths of 50-100 ft around wetlands in the county. A revised buffer analysis using a more realistic and well documented range of buffer widths would be useful, instructive, and could provide a permit modification that would provide setbacks allowing the Applicants to mine in an economically viable way while protecting many wetland functions. | Included in summary response above. |
| 000000542-153 | Percy Angelo | Private Citizen | The DAEIS fails to consider a reasonable buffer proposal-At 4-154 et seq. the DAEIS purports to consider a proposal to provide for nonmining buffers around streams. But the buffers analyzed in the document are 1500, 3000 and 6000 feet, much larger than buffers applied or studied in the past. 4-154. The analysis indicates little if any mineable area left after application of the extreme buffers studied. Ralph Montgomery commented on the buffer selection criteria, wondering why the DAEIS didnt select the many instances of environmental buffers being applied in Florida with ranges from 1500 feet down rather than up.' Ex. 8 at 17. He noted that, A cynical observer might suggest that the unreasonably large buffers were selected to fail, rather than using a more | Included in summary response above. |

## Onsite Alternatives

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | reasonable approach based on existing buffer criteria used in other instances...' Id. He recommended that this section of the document be redone using reasonable buffer distances given the amount and distribution of wetlands/streams/high value habitats on the proposed sites.' Id. at 2. Montgomerys seems like the obvious approach; yet it wasnt done. It appears that the computer set up to run the numbers for more reasonable buffers must exist. Failure to do so represents a failure to take a real look at buffers in the DAEIS. A reasonable buffer applied with provisions for avoidance of high quality habitat, 4-38, should have been considered. | |
| **Individual Comment** | | | | |
| 000000542-157 | Percy Angelo | Private Citizen | The evaluation of alternative locations for mining within the CFPD reveals that the process is a charade-The alternatives chosen for evaluation simply involve alternative sites for mines within the CFPD. Two of those so-called alternatives are in fact future Mosaic mines, not alternatives at all, just mines that are allegedly beyond the Corps artificially imposed time line for the AEIS. Other alternatives involve taking every other available parcel of land within the CFPD, grouping them in polygons, and using elimination screens to determine whether any polygon is otherwise unavailable. Urban areas are eliminated as well as parcels too small for efficient mining. Thus the assumption of the alternative analysis is that the entire CFPD is to be abandoned to mining, unless someone can make a darn good argument that it should be saved. This is antithetical to the AEIS process which is to consider alternatives to the environmental damage, not to outline places where more damage could be done in future. | Environmental protection was one of the most important aspects considered during the screening analysis conducted for offsite alternatives in the AEIS. The tiered screening analysis, described in Appendix B, was conducted using several environmental criteria, including natural resource areas, surface waters, and areas designated as having potential value for state acquisition and conservation. Following the release of the Draft AEIS additional information from commenter's and the applicants, the latter including prospecting data for most of the polygons, allowed a rescreening and reduction in the number of offsite alternatives considered for evaluation. The results of this process have been updated in the Final AEIS in Chapter 2 and Appendix B. |

## Functional Alternatives—Alternative Technology or Practices

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **FA-1** | | | **Several comments were provided questioning the need for phosphate mining in Florida and on the possibility of importing phosphate rock as an alternative to mining in Florida.** | **Section 2.2.6 of the Final AEIS has been expanded to include additional details about the information considered in making a determination that importing phosphate rock from outside the CFPD, including from foreign sources, does not meet the project purpose and need, and therefore is not a reasonable alternative.** |
| 000000281-14 | Sandra Ripberger | Private Citizen | 2.2.5.3 Importing Despite the experience of importing phosphate rock when the South Ft. Meade mine was stopped, the study contradicts itself and concludes that it Would not be reasonable for the applicant to mine and import. Importing phosphate is not given the serious consideration that it warrants. | Included in summary response above. |
| 000000390-2 | Just the Facts | Non-profit Organization | According to a statement made to Reuters, Mosaic has enough phosphate for 10 years and this does not count the Wingate Extension which was just approved. There is no demonstrated "need" for strip mining phosphate in Florida at this time. The 2011 USGS report indicates huge reserves around the world and the supply is increasing 20% by 2015. Mosaic imported from Morocco (and Peru) when the S. Ft. Meade Mine Extension mining was halted, proving how easy and profitable it was. Other US companies import phosphate. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000018-2 | Hunter Lilly | Private Citizen | I have been involved in commercial organic farming for over forty years around the world-- and for Mosaic to state that they are needed to feed the world, and we must have their products to survive and eat- is a pure myth. I do not know of any commercial organic/sustainable farmer that needs to use their products. There are many studies demonstrating that organic/sustainable ag is going to be the ONLY way to feed the world in the future- not the present dominant corporate chemical model.Destruction of more wetlands and natural areas is totally unnecessary in this present day of the urgent need of such systems for human survival.True scientists have the courage to ask the right questions- to go deeper, even though this may be unpopular with the powers that be. | **A determination of which system, conventional agricultural practices or organic-only farming, would better meet global food demand is beyond the scope of the AEIS. As described in Section 2.2.6, use of alternative sources for phosphate fertilizers as an alternative to mining phosphate ore from within the CFPD does not meet the project purpose and need, and therefore is not a reasonable alternative.** |

## Functional Alternatives—Alternative Technology or Practices

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000369-11 | Manatee County, FL, Ed Hunzeker | County Government | 7. Section 2.2.5.1, Page 2-68 Functional Alternatives: Inadequate support was given for elimination of dredge mining alternative. Statements were made on page 2-68, lines 23 through 29 and page 2-71, lines 7-15 without citations that the dredge system is a high energy user and high water user. In Chapter 3: Affected Environment, there is no indication that the dredge mining has caused any more water quantity impacts than dragline mining The transport and beneficiation of the matrix is entirely a wet process so water is required to handle the sand and clay in both technologies. Dredge mining causes little drawdown of the surficial water table during mining, which is a benefit for preserving offsite wetlands and environmentally sensitive natural resources. Evaporation of the dredge pond is also cited as a reason. Evaporation also occurs in the ditch and berm system of the dragline process, as well as the lakes that remain after mining There was no comparison done of evaporation differences between the two mining techniques. There was no review of energy use in the draft AEIS. See attached white paper by Roland Huene which addresses these issues in more detail. Wingate Creek Mine has made many of this report's recommended improvements which have resulted in increased efficiencies and production in recent years. Although Section 2.3 proposes to eliminate dredging as an alternative because this method would not be applicable for "all mines", it will still be utilized in site-specific operations and deserves appropriate consideration. Alternative areas identified in the southern portion of the CFPD are dominated by basins that are characterized as "having a high water groundwater table and a significant presence of wetlands", which may be more suitable for dredge mining | The text in Section 2.2.6.1 of the Final AEIS clarifies and expands on the evaluation of dredging as an alternative to draglines. Dredge systems are generally comparable to draglines with respect to energy use and water use, but dredge systems produce less efficient ore recovery, due in part to the inability to observe the matrix. Other factors that affect the reasonableness for dredging include :<br>• Depth of overburden layers<br>• Depth to groundwater (surficial aquifer system [SAS])<br>• Thickness of the mineable ore body<br>• Need to move mining operations across existing roadway, rail, or utility corridors |

## Cultural Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **CUL-1** | | | **The data synthesis does not reflect an analysis of the cultural resource surveys that have been conducted to ensure that they meet current survey standards, both federal and/or state. We would like to point out that cultural resource surveys that pre-date 1990 may not include any subsurface testing, or very limited testing of this nature. Many early surveys conducted in the mining district in the 1970s and early 1980s were pedestrian, surface inspection level only field surveys.** | **Concur. The text has been modified in Section 3 to acknowledge that pre-1990 surveys were performed to different standards** |
| 000000200-1 | Florida Department of State, Laura A. Kammerer | State Agency | This agency reviewed the referenced draft document and our files to identify issues regarding cultural resource/historic property that may have been overlooked or need further consideration prior to finalization of the Environmental Impact Statement (EIS). The cultural resource data collection is very thorough and well documented. However, the data synthesis does not reflect an analysis of the cultural resource surveys that have been conducted to ensure that they meet current survey standards, both federal and/or state. We would like to point out that cultural resource surveys that pre-date 1990 may not include any subsurface testing, or very limited testing of this nature. Many early surveys conducted in the mining district in the 1970s and early 1980s were pedestrian, surface inspection level only field surveys. This is a significant concern of this agency and we have addressed it on a project by project basis. | Included in summary response above. |
| 000000549-2 | Florida Department of Environmental Protection, Lauren P Milligan | State Agency | The Florida Department of State (DOS) has reviewed the draft AEIS and notes that, although the cultural resource data collection is thorough and well documented, the data synthesis provided does not reflect an analysis of the cultural resource surveys that have been conducted to ensure that they meet current federal and/or state survey standards. The DOS expresses significant concern that cultural resource surveys conducted prior to 1990 may not have included subsurface testing, or very limited testing of this nature. Please see the enclosed DOS letter for additional details. | Included in summary response above. |

## Cultural Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Individual Comments** | | | | |
| 000000365-2a | Carol Mahler | Private Citizen | The section that deals with Residential Setback Screening (pp. 2-63-64), includes Table 2-15 with the setback requirement from an officially designated historical site which is not located within the mine boundary, but it does not give the setback for those historical sites which are within the mine boundary. | Text was revised in Section 2 to include a discussion of setbacks for cultural resources within the mine boundary. |
| 000000365-2b | Carol Mahler | Private Citizen | For example, p. 3-156, line 20-21 states, For the Desoto Mine location, the studies documented four sites that are eligible for listing on the NRHP and will be avoided by any proposed mining activities. However, no specifics were included to explain what that avoidance entails. | Concur. Discussion on avoidance of cultural resources has been added to Section 4. |
| 000000365-2c | Carol Mahler | Private Citizen | On page 3-157, the town site of Pine Level--the original county seat of DeSoto County and also a freedmen site after the Civil War--8DE14--is missing in the list from the analysis of sites for the DeSoto as well as Pine Level/Key Tract Mines even though it was included in the AMAX Pine Level Survey of 1979 and was recommended as eligible for the National Register in that study and the most recent work on the site: Historical Archaeology of the Pine Level Site (8DE14), DeSoto County Florida, a University of South Florida Masters Thesis by Jana J. Futch completed in 2011. Some of the original town site is privately owned, but the northern one-third is part of Mosaics holdings for the DeSoto Mine. | Concur. The text was revised to include 8DE14 in first citation in the table in Section 3. The site was included in the analysis. |
| 000000365-2d | Carol Mahler | Private Citizen | In addition, although Section 4.11.9 Aesthetics mentions the effects of the mine on outstanding scenic areas and Duette Preserve (lines 6-9, p. 4-167), it does not consider the aesthetic effect of phosphate mining on historical/cultural resource sites, such as 8DE14, the original town site of Pine Level. | Concur. There may be potential aesthetic effects on historic/cultural resources. This acknowledgement was added to Section 4. |
| 000000372-4 | Rachel Renne | Private Citizen | Please also consider the implications of the mining on another of DeSoto counties growing industries; tourism. Arcadia is a town undergoing a brilliant revitalization of its historic character, which is increasing its attractiveness as a tourist destination. The two major routes for accessing Arcadia from the coastal cities are Highways 72 and 70. The DeSoto mine would border both of these highways, marring the now peaceful drive for visitors. | Concur. The effect of mining on viewsheds is presented in Section 4. |

## Cultural Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000552-1 | Seminole Tribe of Florida, Paul N Backhouse | Tribal Government | Due to the high number of cultural resources present within the vicinity of the proposed mine locations, the STOF-THPO requests continuous consultation throughout the development of the Final AEIS. | Comment acknowledged. |
| 000000552-2 | Seminole Tribe of Florida, Paul N Backhouse | Tribal Government | The STOF-THPO has provided maps and supporting documentation regarding sites of interest located within the proposed mining areas to the USACE Regulatory Archaeologist, David Pugh, as well as the project manager. After reading and reviewing the Draft AEIS, the STOF-THPO has several issues of concern that were not addressed or resolved. Primarily, the portion of the un-surveyed area of the DeSoto Mine, as well as the avoidance of several sites that contain human remains which are located throughout the DeSoto and Ona Mine Areas (see map for details). Additionally, there are several sites of which the eligibility status regarding the National Register of Historic Places has not been ascertained. This also needs to be addressed through additional survey work and consultation with the STOF-THPO. The STOF-THPO is anxious to review the Final AEIS and looks forward to providing comments regarding the aforementioned issues. | Consultation is addressed in Section 4 of the Final AEIS. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **PH-1** | | | **Numerous comments were provided pertaining to the factual discussion of the radon and radioactive constituents, the decay process, public health issues, and other scientific discussion. In addition, comments were provided which noted the lack of discussion of radioactive dust particles.** | **Section 3.3.7 of the Final AEIS has been revised to include additional information on the possibility of increased indoor radon concentrations, mining practices that reduce the potential for public exposure, and other radiation-related public health concerns.** |
| 000000275-5 | Helen King | Private Citizen | In addition, radiation from mining is not discussed and should be studied, as it is a public health threat and occurs in higher levels when the matrix is exposed. | Included in summary response above. |
| 000000349-12 | Robert Fellman | Private Citizen | Doc Ref = 4.11 Issues Which Are Not Significant or Have Been Covered by Prior Environmental Review Page = 4-103 Line = 33 through 35 Issue: AEIS maintains: "Radiological parameters (gross alpha and radium 226) also can be elevated in such waters because of the liberation of these constituents from the excavated matrix during slurry conveyance and beneficiation." Inadequate consideration of radioactivity duo to mining.<br>Comment: The AEIS in Section 4.11, page 4-103 acknowledges that "gross alpha" and Radium 226 are present. The "stacks" of accumulated beneficiation waste are potential sources of radon. This should be analyzed. While this may not be a differentiating factor among the mining alternatives, clearly added releases will occur compared to the No-Action Alternative. | Included in summary response above. |
| 000000354-1 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | The uranium has been present since the formation of Earth itself. As phosphate deposits accumulated over time, the uranium in the environment tended to be concentrated with the phosphate.) | Included in summary response above. |
| 000000354-2 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | As uranium decays, daughter nuclides are produced until a stable nuclide is formed (lead206[bkb2]). (Comment [bkb2]: Only one isotope of uranium, uranium-238, results in lead-206, but both the U-238 and U-235 decay chains end in a stable isotope of lead.) One of the daughter nuclides formed and in equilibrium with uranium-238 in phosphate deposits is radium-226 and, which its daughter nuclide produces, radon-222 (radon gas). Radium can concentrate in bone and other tissues when ingested or inhaled, though the primary exposure is by direct gamma radiation emitted by radium-226 from sources outside of the body. Radon enters the body | Included in summary response above. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | through inhalation and can damage lung tissue upon decay, but radon is an inert gas and its effect is more transitory than that of its solid daughters, like lead-210 and polonium-210,which deposit deep within the lung and deliver radiation for much longer periods. | |
| 000000354-3 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | Uranium activities in phosphate ores found in the U.S. range from 20 to 300 parts per million (ppm), or 7 to 100 picocuries per gram (pCi/g) (USEPA, 2011). Florida topsoil exhibits activities of 1-2 pCi/g of uranium-232 in equilibrium with radium-226, but activities up to 10 47 pCi/g have been documented in topsoil over undisturbed phosphate deposits. Specifically, statistical analysis of 4,852 core samples taken from the first foot of soil on unmined lands by the Florida Department of Health, Bureau of Radiation Controlindicated an average of 1 pCi/g Ra-226 with a standard deviation of 3 and a maximum of 47 (Birky, 2011). It is likely that the highest measurements indicate other disturbances, but measurements in the tens of pCi/g with no indications of disturbance were recorded. Matrix excavation brings material having higher natural radiation levels to the surface, and subsequent material processing during beneficiation results in rock product, sand, and clay fractions having variable levels present. | Included in summary response above. |
| 000000354-4 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | Exposure to radiation happens daily for all persons, through what are called Normally Naturally Occurring5 Radioactive Materials (NORM). | Included in summary response above. |
| 000000354-5 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | 17 Phosphate Mining and Exposure PathwaysPhosphate mining increases radiation exposure potential when naturally occurring radon/gamma radiation is disturbed by matrix excavation and brought closer to the surface where it can escape to the atmosphere. This is Technically Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). Exposure to radiation can be either direct[bkb3], such as through inhalation, or indirect through come from radioactive source outside of the body like cosmic radiation from space or radiation from materials in our environment like soil, air and water. We can also be exposed to radiation by taking radioactive materials into our bodies through inhalation, ingestion, or open wounds. Common exposure | Included in summary response above. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | pathways including include contact with soil, water, animal food sources, and food ingestion transfer of radioactive materials from soil and water to crops and then to prepared foods, or similarly to forage crops and then to farm animals and food products derived from them.(Comment bkb3: The concept of direct vs. indirect exposure has been confused with other concepts here. Direct and indirect exposures have more to do with radiation biology and not the routes of exposure discussed here.) | |
| 000000354-6 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | 6 Secondary Exposure Pathways7 Soil represents a secondary pathway of exposure, through direct contact, ingestion, such as a scenario of a child eating soil, or contact during8 outdoor activities. Guidry et al. (1986, 1990) gathered data on radium-226 levels in Florida soils and9 concluded that reclaimed lands containing clays contained the highest radium-226 levels. Additionally,10 these researchers concluded that the difference in radium-226 activities between mined and unmined11 lands is 5 pCi/g. The SENES (2011) analysis of FDOH data found that the difference was slightly lower at12 4 pCi/g. In contrast, USEPA reported that its review of 30 years of field measurements suggest that13 Florida phosphate mined areas can have surficial soils levels of radium from 20 to 45 pCi/g higher than14 unmined areas (with activities of 1-2 pCi/g) (personal communication, J. Richards, 2012). Statistical analysis of 3,087 core samples taken from the first foot of soil on unmined lands by the Florida Department of Health, Bureau of Radiation Control indicated an average of 6 pCi/g Ra-226 with a standard deviation of 6 and a maximum of 63 (Birky, 2011).15 Water is another secondary pathway of exposure. The primary drinking water standard for radium16 (inclusive of radium-226 and radium-228) is 5 pCi/L. This means any municipal drinking water source17 cannot exceed this level. To assess private wells, Watson et al. (1983) compiled data on the Radium-22618 concentrations in various drinking water sources in the United States. Concentrations in Florida varied19 from 0 to 4.1 pCi/L for all municipal and private wells surveyed, except one which exhibited a range of 0to 76 pCi/L. For surface waters, average values ranged from 0.06 to 5.1 pCi/L (Irwin and Hutchinson1976, Kaufman and Bliss 1977, Fanning et al., 1982). A review of the most recent (2011) FDEP drinking water monitoring data shows a range of | Included in summary response above. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | 0 to 12 pCi/L for radium-226, and a range of 0 to 5.1 pCi/L forradium-228 (accessed from http://www.dep.state.fl.us/water/drinkingwater/chemdata.htm). Ingestion of fish and waterfowl represent a third potential indirect pathway of exposure. Measurements ofradium-226 in fish captured from lakes created through phosphate mine reclamation were examined byGrove (2002); no statistical difference in radium-226 was found when compared to fish from non2727 impacted lakes. Similarly, Montalbano et al. (1983) and Myers et al. (1989) studied the radium-226 dosage from the consumption of water fowl. Water fowl from phosphate mining impacted areas and nonimpacted areas were compared. Based on the amount of duck that would have to be consumed (1-2 kg/day) to achieve a dose equivalent to the daily consumption of water at the 5 pCi/L limit, it was concluded by the researchers that this does not represent a significant exposure pathway compared to the consumption of ducks elsewhere. A fourth indirect internal exposure pathway is other food consumption. Guidry et al. (1986, 1990) concluded that plants grown on reclaimed lands exhibited a higher radiation value content of radioactive materials (5.2 picoCuries per gram (piC/g) forpCi/g Ra-226[bkb4], 8.5 PCi/g Pb-210, and 7.5 pCi/g for reclaimed lands versus 0.6 pCi/g Ra-226 and below detection for the other two for the control lands), and a person consuming these plants would have an exposure increase of 2.7less than one | |
| 000000354-6 | Florida Industrial and Phosphate Research Institute, Brian K Birky, PhD | Academia | Old clay lands that were not reclaimed had 16 pCi/g Ra-226, 23 pCi/g Pb-210 and 19 pCi/g Po-210. A person who included as much food as possible from foods (21 crops) grown on this land would still only get a dose of less than 3 mrem/yr. (Comment [bkb4]: The term picocuries should be spelled out at first usage in the text, and the c in curies is used in lower case to distinguish the unit of measurement from the scientists it was named after. The radionuclide being measured must also be named, because there are others present at different concentrations. The others measured in the study need to be included because they are important dose contributors. I did the dose assessment for this study, so consider these as comments from an author of the study.) | Included in summary response above. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000377-5 | Dr. Margaret M Niklas, BS Biology, DVM | Private Citizen | The public health problems stemming from mining operations would not only include groundwater quality and quantity, but also the radioactive phosphogypsum that becomes exposed as the phosphate mineral is extracted from the earth. Since our family lives within ten miles of the proposed mining site, we are concerned about our own well, our only water source, and about airborne particles, exposing our children to radiation. Radiation exposure would have an impact on many local families, but also have far-reaching effects because of the many food-producing groves, farms, and ranches in the area. | Included in summary response above. |
| 000000542-201 | Percy Angelo | Private Citizen | O. Radiation and Air Emissions Associated with Mining Present Serious Public Health Concerns. p. 36 -There is no discussion of the serious public health impact from radiation as a result of the mining and processing activities- Ex. 31, 44 FR 38664 (July 2, 1979) Ex. 32, 41 FR 26066 (June 24, 1976) Ex. 33, Polk County Residential Building Radon Protection Map, Florida Department of Health, www.doh.state.fl.us/environment/community/radon/MAPS/resbhard.htm. Ex. 34, Greg Martin Views of wetland mitigation mixed, Charlotte Sun, March 30, 2011. Ex. 35, Greg Martin, Fla.reps lobby EPA to drop flyover plan. Charlotte Sun, July 11, 2011; Doug Guarino, EPA, GOP in Head-To-Head Fight Over Residential Radiation Standard, Superfund Report (July 11, 2011). See also letter from Florida Congressmen to Honorable Lisa Jackson dated February 16, 2011 and example of USEPA response to Congressman Rooney, dated May 4, 2011, pointing out that there was an excellent correlation between aerial surveys for radiation of a Superfund site in Plant City and ground-based measurements. | Included in summary response above. |
| **PH-2** | | | **Commenters raised concerns about air emission increases from traffic and beneficiation plants, and possible effects on non-attainment.** | **Chapter 3 of the Final AEIS discusses existing air quality conditions within the study area, and Chapter 4 discusses potential effects on air quality associated with the Applicants' Preferred Alternatives and the Offsite Alternatives.** |
| 000000349-13 | Robert Fellman | Private Citizen | Doc Ref = 4.11 Issues Which Are Not Significant or Have Been Covered by Prior Environmental Review Page = 4-165 Line = 22 through 25 Issue: At section ,4.11.5 Air Quality, the AEIS states: "No significant impacts are expected to occur to air quality that would result from mining within any of the potential locations. Equipment used in land clearing and | Included in summary response above. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | preparation, and routine vehicular traffic on and around these proposed mine projects would contribute to fuel-burning emissions, but the effects would be small in spatial extent and not stationary." Poor coverage of AQ impacts. Comment: How can this be credible? There are planned for the alternatives two beneficiation plants, both of which must be associated with at least some air emissions. Not mentioning these is a serious act of omission. | |
| 000000365-5 | Carol Mahler | Private Citizen | Section 3.3.7.7 Public Health, under the subsection Air Quality and Noise, outlines only fugitive dust and noise (line 10, p. 3-149), but does not consider the air quality effects of the increased electric or other energy needed for the approximately 25-miles of pipeline that will convey the water pumped from the FAS at the Fort Green Mine, now closed, to the proposed DeSoto Mine/Pine Level/Keys Mine and the increased energy needed for the four proposed phosphate mines. These energy demands certainly will impact the air quality of the region and should be considered in the AEIS. | Included in summary response above. |
| 000000369-29 | Manatee County, FL, Ed Hunzeker | County Government | 8. Section 4.11.5, Page 4-165: Manatee County recommends a more in-depth air quality evaluation of proposed beneficiation facilities be performed based on the Clean Air Act to address whether the location of the facilities may cause non-attainment levels in surrounding counties. Although as referenced on Page 3-148, lines 1-8, the region is classified as in attainment, there have been exceedances which may be increased by the proposed actions. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000014-1 | Kristi Patel | Private Citizen | Tetra-Tech did a study which is presently in Region 4 EPA Brad Jackson Project Manager in first draft. It was a solidly done study with state/federal monies by a solid environmental company using EPA labs....The study was done on Mined Lands in Polk County-TENEROC..Must needs be accessible for incorporation in AEIS. | Comment acknowledged. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000015-3 | Kristi Patel | Private Citizen | Consideration should be given to properties acquired for mining that have a history of chemical impact..ie. agricultural/orange groves etc. There is not sufficient data re. the "fate of chemicals" and potential chemical bonding during process that could impact public health drinking water. The "bonded" chemicals do not detect in present drinking water testing criteria. (Greg Drexler/USGS). | The mines are not permitted to discharge chemicals that would cause impairments of surface water or groundwater, and monitoring that is required by the mine permits would detect agricultural chemicals introduced to the mining process. In addition, companies conduct due diligence surveys before land acquisition, to confirm the land is not contaminated from prior activities. |
| 000000017-5 | Kristi Patel | Private Citizen | Reference:1. .Severance Tax l978 Statute...monies set up to be utilized specifically by industry for impact.2. ( FIPR) Florida Institute for Phosphate Research...which provided assurances to Industry of establishing a monopoly on all "existing information/ data" which would pave the way for all future regulation on same Industry.Documentation and testimony could be provided by academic/political community...that: a) Industry Lobby very strong in 78 and statute was precipitated/instrumented by lobbyist/Industry. Quote by politician..." I would like to tell you that we had a strong public health platform, however, Industry lobby very strong...they presented statute and we shook our heads and nodded." b) That Public Health Professionals were Behavior Modded into NOT utilizing FIPR monies directly following establishment of funding source.I personally interviewed several Public Health Academic professionals at USF Tampa...they directly informed me and stated to me ...that they attempted to put thru Seed and/or Formal Proposals....and that the then Public Health Professional at FIPR, Gordon Nifong, made them " go through so many hoops", that they determined it was "industry money" and there were more easily accessible funding sources for them. Dr. Nifong ...later quoted to me in the early 90's...that obviously there are not public health issues because the public health community was as able as anyone to do research. I found this to be inconsistent with testimony. I was requested by Dr Gordon Nifong to go to USF and get the two academics that did participate to "stand behind" their research. This was in reference to DR. Gary Lymans study on Increased Leukemia and Lung Cancer in the Phosphate Region...and a DR. Chokas(Statistician/Mathematician)....These Scientists were scrutinized when the Institute did not like their findings....they were upstaged with radiation and other experts out of Seatle??? and made to look like academic buffoons...Dr. Brian | Comment acknowledged. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Berkey personally documented discount of Lymans work autocratically???without peer review...It was the ultimate statement of existing bias. | |
| 000000280-23 | Lee County, FL, Roland Ottolini, P.E. | County Government | Chapter 1 Project Purpose and Need 1.1.3.3. Historical Technological Developments in CFPD Mining Page 1-7, Table 1-1 Industry Timeline No dam breaks or spills are listed in the chronology. These events are very important episodes in the industry timeline and should be acknowledged, although they are discussed later in the AEIS. | The history of spills and dam releases from the industry has been included in the Final AEIS in Section 3.3 and Appendix D. |
| 000000281-17 | Sandra Ripberger | Private Citizen | 3.3.7 The Human Environment The AEIS states, Mining could cause or contribute to water and air pollution. But none is documented and we know it exists. | The Final AEIS addresses potential impacts to water quality in the surface water section of Chapter 4 and potential impacts to air quality in the air quality section of Chapter 3 and in the sections of Chapter 4 addressing unavoidable adverse impacts and the relationship between the short term and long term uses of the environment. |
| 000000281-20 | Sandra Ripberger | Private Citizen | 3-153 The AEIS minimizes environmental damage caused directly by mining, for example, referring to catastrophic dam failures which have been reported to have caused significant pollutant releases. The study reports that there have been No catastrophic failures since 94; what about Piney Point and Archie Creek? | Chapter 3 and Appendix D include discussions about CSA and gypsum stack releases due to dam breaks or other factors. |
| 000000348-7 | Barbara Angelucci | Private Citizen | 3.3 Key Natural and Human Resources of Concern 3-11 Radiation In 2011 the EPA had begun aerial surveys of former phosphate mines in central Florida where it fears tens of thousands of people may be exposed to dangerous levels of radiation. Approximately 10 square miles of former phosphate mining lands near Lakeland, FL., are at issue. There has been opposition to this by some member of Congress as well as Mosaic. Information found on: Inside the EPA, EPA Sets Stage For Massive Cleanup Of Homes On Radioactive Mine Sites, 2/7/11 Superfund Report. Radiation must be checked and answers given regarding radioactivity on mining sites and unreclaimed/reclaimed, but not released land. Until this is done there should be a moratorium on mining. A radiation determination must be a part of the AEIS. We dont want any more superfund sites and their related costs to the | An expanded discussion has been provided in Chapters 3 and 4 of the Final AEIS on radiation as it relates to public health. Decisions to place a moratorium on mining for radiation-related reasons is outside the scope of this AEIS. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | Government and taxpayers, while phosphate mining companies continue to reap profits and our natural resource. | |
| 000000349-26a | Robert Fellman | Private Citizen | 1)General Issue: It is expected that offsite noise generated during mining operations will be moderate and intermittent and within limits established by Hardee, Desoto, and Manatee County ordinances of codes" . Lack of adequate concern for the issue of noise pollution. Comment: On February 2, 2012 a meeting of the Manatee County Commissioners was held in Bradenton for the purpose of changing the zoning status for the Wingate Extension, a roughly 661 acre parcel located in Manatee County. | Mining activities are required to comply with local noise ordinances and will be regulated consistent with those ordinances. The relevant discussion of these requirements is included in Section 3.3.7 and the noise section of Chapter 4 of the Final AEIS. |
| 000000349-26b | Robert Fellman | Private Citizen | 2) In testimony presented by home owners living adjacent to the extension, it was made clear that adjacent communities suffered from serious noise and light pollution as well as insidious vibrations transmitted offsite by excavation activities which continue essentially 24/7. Rather than simply writing off these intrusions with a blandishment such as the above, the AEIS needs to identify specific mitigation measures to be taken including the location of the measures. | Noise and light pollution are generally localized. All mining activities are required to comply with local noise and dark-skies ordinances, as they apply. |
| 000000355-2 | Sarah Hollenhorst | Private Citizen | I feel the AEIS is not in compliance with the Solid Waste Disposal Act of 1965 as it states that phosphate mines are not generators of solid waste, that sand and clay residuals are to be used as part of the land reclamation process, when in fact the residuals will have been brought to the surface and will be radioactive, with a greater radon composition than surface sand and soil, and should not be allowed to be concentrated and particles should not be available to wind drying and blowing them. The mines are near and within populated areas. | Disturbing the existing soil matrix has the potential to create additional pathways for naturally occurring radon gas to enter the environment. However, the process does not necessarily concentrate the gas or the precursors that form radon. Any radon gas that enters the environment (i.e., outdoors) is quickly diluted and, as explained in Section 3.3.7 of the Final AEIS, does not raise a concern for human health. The unavoidable adverse impacts section of Chapter 4 provides additional information. |
| 000000355-3 | Sarah Hollenhorst | Private Citizen | I feel that Mosaics past mining practices have not complied with the Clean Air Act of 1972 as neighbors have complained that the exposed dust, radioactive, has been allowed to blow without effort at control, and despite complaints. | Comment acknowledged. |
| 000000369-21 | Manatee County, FL, Ed Hunzeker | County Government | 10. Section 3.3.7.7, Page 3-152: The effect of radiation in food consumption has not been adequately addressed. Typically reclaimed CSA's are used for cattle production and limited crop production. Please provide reference studies that address potential health concerns of consuming beef and dairy products from animals grazing on CSAs, or vegetable/fruit products grown on reclaimed CSAs. | Available studies on consumption of crops grown on reclaimed lands and of consumption of animals that have been exposed to water or food sources on unclaimed lands have been reviewed and are noted in Section 3.3.7 of the Final AEIS. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000369-28 | Manatee County, FL, Ed Hunzeker | County Government | 7. Section 4.11.4, Page 4-165 Noise: Manatee County Noise Ordinance was not included in this section of the study (Manatee County Noise Ordinance, 08-12, as amended). | Chapter 4 has been amended to include Manatee County. |
| 000000370-6 | Maynard Hiss | Private Citizen | 10) Much of the phosphate lands look like moonscapes and there are also gymsum piles that are often stripped of vegetation for long periods of time. Because of this there is more airborne particles. Many of them have high amounts of nutrients and pollutants. In sarasota county for example, this cause a problem when maintaining the water quality in swimming pools as nutrients cause a biological response that effects the chemistry of the pool. It also makes it hard for owners to control pool chemistry as they don't know what is in the pool at any given time. The natural water bodies and related surface water flows are also obviously affected much more than pools 50 miles from the sources. Much of the airborne particles are highly souable and persist in the water, especially ground water that does not have treatment by natural biotic processes. | As described in Section 1.3.1, impacts associated with phosphogypsum stacks are not within the scope of the Final AEIS, except in the context of the cumulative impacts analysis.<br><br>Potential effects on surface water and groundwater quality are discussed in Chapter 4. |
| 000000371-51 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "Gross alpha activity levels in water samples from streams in unmined basins ranged between 0.34 and 3.54 picoCuries per liter (pCi/L) as compared to 0.34 to 10.2 pCi/L from mined and reclaimed lands." These elevated conditions meet the drinking water standards, but should be of concern where public drinking water supplies lie downstream. Raw river water is stored in off-stream reservoirs and dissolved constituents can be concentrated during the dry-season by evaporation resulting in the potential for this parameter and others to increase above drinking water standards. This impact to the reliability and increased cost for additional treatment by public utilities needs to be addressed in the AEIS. | Potential effects on surface water quality are discussed in Chapter 4. |
| 000000387-2 | Mary Olsson | Private Citizen | The study concludes that the proposed mining operations present no environmentally significant impact and no harmful public health effects. However, outcomes of recent prior mining sites in Florida resulted in unexpected harmful effects requiring remedial action. I would like to know how the methodology and standards applied within this studys discretionary assessments linking scientific data to the decision making process differs from those used in the approval process in past operations so to guard against reoccurrences of any unexpected harmful results. | The Final AEIS discusses how mining has benefitted from past events and improvements in the technology for BMPs, reclamation, and restoration, to include the applied research used in more recent mine programs for stream restoration and water resources management. These changes support the conclusions drawn in the Final AEIS. There also have been iterative workshops to gather additional information from the public and other agencies that have also been used in the development of this AEIS that complement the decision process. |

## Community Health, Safety, Quality of Life

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000542-133 | Percy Angelo | Private Citizen | The AEIS fails to consider the impacts of air emissions from mining and processing-Dust caused by widespread strip mining operations is a serious problem from mining that is not addressed by the AEIS. Exhibit 36 provides several pictures of dust at mine sites. Yet the DAEIS discussion does not mention dust at all. See 4-165. Fugitive dust is not just an annoyance, though it is that; it presents health risks which are recognized by the many states with fugitive dust regulations, and it presents significant costs and maintenance problems for homes and businesses. Ex. 37. Beyond the annoyance of the dust itself, the public health studies previously provided in our letter of April 20, 2011 addressing phosphate processing plants and the Tampa Bay area in general have shown elevated levels of lung cancer. This raises significant public health concerns for the impact of the fugitive dusts raised by phosphate mining and processing. In processing plants dust can be an irritant and can contain naturally radioactive particles, so workers in dusty areas wear dust masks.' Air Quality, FIPR Phosphate Primer, fipr.state.fl.us/Phosphate Primer. Ex. 24. Such dusts will also contain fluorides, id., so human or animal exposure is undesirable for many reasons, yet there is no discussion in the AEIS of these impacts. | Mines and mining activities are required to comply with all local, state, and federal requirements for fugitive dust. Fugitive dust, including measures to minimize impacts outside the mine property, is discussed in more detail in Chapter 4. |
| 000000542-202 | Percy Angelo | Private Citizen | The AEIS fails to consider the impacts of air emissions from mining and processing- Ex. 36, Dust emissions from mining. Ex. 37, Susan Marshalk Green, Blowing sand and dirt from Mosaic phosphate mining in Fort Lonesome is sickening them, neighbors say. Tampa Bay Times, June 8, 2012, www.tampabay.com/news/environment/article1233945.ece. | Mines and mining activities are required to comply with all local, state, and federal requirements for fugitive dust. Fugitive dust, including measures to minimize impacts outside the mine property, is discussed in more detail in Chapter 4. |
| 000000547-17 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Identified sources of risk to public health are air quality degradation and increased radiation associated with the mining and reclamation process, and catastrophic clay settling area dam failures. The DAEIS indicates that air quality concerns are adequately addressed by existing mining practices; that the risk of mining-related exposure to radiation is low due to aerial dispersion; that radon gas levels in buildings constructed on reclaimed mine cuts should not create a health risk as long as Florida Building Code requirements are maintained; and that the risk of clay settling area dam failure is minimal with proper implementation of the current rules regarding design and construction. | Comment acknowledged. |

## Community Health, Safety, Quality of Life

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| 000000553-11 | Percy Angelo | Private Citizen | The stopgap measures taken to date to pretend that things are under control, e.g. the sale of Piney Point to a cash starved company, the extremely insufficient bonding requirements for gypstack management, etc, the halting of aerial radiation surveys to avoid disturbing the real estate market, dont solve the problem. The result is that the problems will continue and get worse and reappear when there is even less ability to solve them. | Comment acknowledged. |

## Ecological Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **ECO-1** | | | **These comments address the potential impacts that the proposed action would have on estuarine biological communities downstream of the CFPD, primarily those within the Charlotte Harbor Estuary. The commenters primarily point to the potential impacts that would be associated with water quality impacts and salinity changes caused by reduced stream flows. Several commenters raised concern about impacts to Essential Fish Habitat (EFH) and the smalltooth sawfish. Some of the comments addressed the potential impacts to the overall estuarine community, including the fisheries.** | **The direct and indirect impacts of the four proposed actions, plus the cumulative impacts of the four actions plus other past, present, and reasonably foreseeable future actions, are described in Chapter 4. These impacts include the impacts to surface water flows and downstream receiving waters, including Charlotte Harbor. These impact analyses will be used as part of the USACE coordination with the NMFS for essential fish habitat and smalltooth sawfish.** |
| 000000280-48 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.12.3.2 Aquatic Resources and Upland Habitat While it appears that the AEIS addresses on-site hydrologic and ecological impacts there does not seem to be an analysis of how the landscape changes from mining in the upper basins of the proposed watersheds will affect the downstream aquatic habitat integrity. The Peace River and Myakka River systems are estuarine systems and as such landscape changes that lead to hydrologic and hydraulic changes in their tributaries will alter the downstream estuarine system. It will be important to know the extent of the impacts of these estuarine systems as coastal communities rely heavily on recreational and commercial fishing as a substantial portion of the local economy. The Corps contends that the impacts to hydrology are negligible; however these estimated impacts have not been used to determine consequences for downstream affected users and fisheries. The Corps should consult with the National Marine Fisheries Service per the Magnuson-Stevens Fishery Conservation and Management Act to better determine the impacts to the fresh and estuarine system fisheries resources. See citation Magnuson-Stevens Act - 104-297 (b) FISH HABITAT. (D) (2) Each Federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act. (4) (A) If the Secretary receives information from a Council or Federal or State agency or determines from other sources that an action authorized, funded, or undertaken, or | Included in summary response above. |

## Ecological Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | proposed to be authorized, funded, or undertaken, by any State or Federal agency would adversely affect any essential fish habitat identified under this Act, the Secretary shall recommend to such agency measures that can be taken by such agency to conserve such habitat. | |
| 000000393-8 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the analysis of estuarine aquatic communities and potential changes for the alternatives. The DAEIS states on page 3-197: The potential for the 9 effects on estuarine communities to occur as a result of phosphate mining operations is evaluated in 10 Chapter 4. However, this analysis has not been performed. CHNEP requests an analysis of the significant biological/ecological resources of the downstream estuarine aquatic communities, their current status of how the past mining has impacted, the existing mining is impacting and how the proposed mine alternatives are likely to impact them. The analysis should include critical habitat of the small tooth sawfish. We particularly recommend the analysis tools used by the Southwest Florida Water Management District used in the Lower Myakka Minimum Flows and Levels and apply these to the Peace River as well. | Included in summary response above. |
| 000000542-106 | Percy Angelo | Private Citizen | K. There Is No Discussion of the Impact of These Reduced or Impacted Water Flows on the Charlotte Harbor Estuary The DAEIS is missing any discussion of the impact of the proposed mines on Charlotte Harbor and its estuary, an estuary of national significance, an Aquatic Resource of National Importance (ARNI) and an Outstanding Florida Water (OFW). Both the Myakka, a Wild and Scenic River and itself an OFW, and the Peace discharge to Charlotte Harbor, meaning that the impact of existing mines, new mines and the Pioneer and Pine Level/Keys mines will all be felt at the same place, Charlotte Harbor. The DAEIS quotes the CHNEP management plan: When these rivers meet the salty water of the Gulf of Mexico, they form estuaries that are one of the most productive natural systems on earth.' 3-53. Reductions in flow mean that the salinity gradient in the harbor will change. See 3-107. As discussed in several studies provided to the Corps, the result can greatly impact estuarine species which require different salinities at different stages of their life cycles. Seasonal variations can be important, which makes the DAEIS | Included in summary response above. |

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| | | | focus solely on annual average flows irrelevant to the issue of the impact on these species. The Peace, Horse Creek and the Myakka all serve as sources of drinking water for Charlotte, Desoto and Sarasota Counties and the cities of North Port and Punta Gorda. 3-84. The DAEIS never calculates the loss of flow, in particular the dry season loss of flow, and the impacts on those water supplies during low flow periods. It never considers the economic costs to the water supply authorities to provide supplies during low flows, when they may be unable to draw from the rivers. Ex. 8. The DAEIS sole answer seems to be that since the Peace River Manasota Regional Water Supply Authority can take water from the River, it doesnt matter if mining takes it too. See 3¬ 54. There is a real difference, however, between using the water from the Peace to support residential uses necessary for the health and safety of 200,000 customers today, a present exigency, and planning that in the future one will be allowed to use water which would otherwise support the Peace to move dirt. The DAEIS instead goes on to wash its hands of any responsibility to look at this issue, saying, Full characterization of the existing conditions within the lower Peace River and in the Charlotte Harbor Estuary cannot be adequately covered in this brief section of the AEIS.' Id. Unfortunately theyre never covered anywhere else either. Nitrogen and phosphorus loadings to Charlotte Harbor are discussed below. It is admitted in the DAEIS, 3-92 to 93, that loadings are currently too high to protect the Harbor yet this crucial issue is also ignored in the Consequences section. Nor is any recognition given to the impact of these loadings in light of the demand by USEPA for adoption of numeric nutrient standards for these constituents. The Corps assured downstream Counties that the AEIS will address Charlotte Harbor. Quite simply, the livelihood and future of these counties, Charlotte and Lee, depend on the health of Charlotte Harbor. These promises have been broken and the DAEIS is fatally deficient as a result. | |
| 000000542-107 | Percy Angelo | Private Citizen | L. The DAEIS Fails to Consider the Impact on the Critical Habitat for the Federally Endangered Small Tooth Sawfish. The background section, and chapter 6 on compliance with environmental requirements, somehow manages to discuss listed species without any mention of the small tooth sawfish. 3-115 to 117. The Charlotte Harbor estuary has been listed as | Included in summary response above. |

## Ecological Resources

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | critical habitat for the juvenile sawfish. Since that designation the Florida Fish and Wildlife Commission has studied the juvenile sawfish and their initial results are reported at Ex. 17, http;//myfwc.com/research/saltwater/fish/sawfish/2010-report-charlotte-harbor-estuarine/. In their sampling most sawfish were captured at the mouths of the three major rivers, in areas with certain identified salinities, between 18 and 30 psu. Sawfish moved upriver with increasing salinity. There is a limit to this movement, however, as habitat size and carrying capacity is essentially decreasing. Changed salinities due to reduced freshwater flows would appear to impact the sawfish critical habitat. More studies are underway; yet the DAEIS does not discuss the potential impacts, or, even better, support studies to answer some of these important questions. | |
| 000000542-195 | Percy Angelo | Private Citizen | L. The DAEIS Fails to Consider the Impact on the Critical Habitat for the Federally Endangered Small Tooth Sawfish p. 26 Ex. 17, 2010 Five-year Summary Report on Sawfish Research in the Charlotte Harbor Estuarine System, Florida Fish and Wildlife Commission, http://myfwc.com/research/saltwater/fish/sawfish/2010-report-charlotte-harbor-estuarine/. | Included in summary response above. |
| 000000548-1 | National Oceanic and Atmospheric Administration, National Marine Fisheries Services, Miles M Croom | Federal Agency | According to information provided in the AEIS, the proposed projects could reduce freshwater inflows in the Myakka and Peace Rivers by as much as two percent. The AIES does not specifically identify or address potential secondary or cumulative effects of the reduced freshwater inflows on essential fish habitat (EFH) or commercially and recreationally valuable fish and invertebrate species within the lower Myakka and Peace rivers and Charlotte Harbor estuary. The role of freshwater inflows to sustain and maintain the ecologic health and diversity of estuarine ecosystems is widely documented and the impacts of reduced inflows should be thoroughly addressed in the Final AEIS. | Included in summary response above. |
| 000000550-26 | POW & LBC, James Cooper | Environmental Organization | SAWFISH No Mention in this DAEIS? Yet, I pointed this out in my April 2011 Comments to you: (1) That the Small Tooth Sawfish has been on the Federal Endangered Species List since 2003 , (2) We know the Endangered/Protected Sawfish lives in Charlotte Harbor & the NMFS has placed a special protection status on Charlotte Harbor because (3) the freshwater downstream flows are vital to maintaining & sustaining the | Included in summary response above. |

## Ecological Resources

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| | | | Sawfish juvenile nursery areas (3) and lastly: (4) I made you aware there is currently the 2nd of a 3-Year Federally funded study (Now in Phase 2) by FF&W staff of the Habits & Habitat of the Juvenile Sawfish in the northern nursery area of Charlotte Harbor, the Peace River & Myakka River via Tagging & Tracking. RECOMMENDATION: Ensure the NMFS performs in this DAEIS their required Essential Fish Habitat reviews for each of the 6-above listed Mines (based upon their coming on line & mining near ARNI streams & wetlands) & fully considers any & all annual & seasonal stream flow losses when any or all are operating anytime & ensure their recommendation are included in the Final DEIS. PLEASE INCLUDE THIS VITAL SAWFISH INFORMATION (below) In the DAEIS: SAWISH INFO Missing in DAEIS: The information below is from marine fish scientists including a State F&W group in stationed in Port Charlotte whom are actively tagging & tracking juvenile sawfish under a federal grant for the next 3 years. This information (below- is from them) and it is proof positive that low or reduced freshwater flows downstream into Charlotte Harbor will harm the many juvenile Sawfish habitats in the lower Peace River and Charlotte Harbor. Federally Protected: Endangered sawfish. Charlotte Harbor is a National Marine Fisheries identified protected juvenile nursery area for the Federal Listed & Endangered Sawfish & a primary nursery area for many other recreational game fish. The information below from these highly qualified marine biologists reveals that it is very critical to keep the salinity levels in the nursery areas lower than sea level salinity levels & to ensure downstream freshwater flows to Charlotte Harbor are available each year during all 4 seasons to ensure the normal habitats for sawfish remain healthy and productive. Whenever the CFPD flows downstream are reduced & then the sawfish fish must travel upstream to stay in the salinity zone levels they require. Yet, moving upstream as an unintended negative consequence: It reduces the size of the nursery area, because the rivers all narrow as you go upstream. Result: Any upstream habitat relocations for the sawfish provide less nursery space & more competition for food in the same smaller habitat area by many species of fish. If this negative scenario is not temporary and remedied by increased flows in a short period of time the result means both less sawfish & less recreational sport fish in | |

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| | | | the future living at all & available in Charlotte Harbor. Simply Put: If the Corps & along with the National Marine Fisheries (NMF) folks do not not do their job & address in the DAEIS the special sawfish requirement to protect the sawfish by ensuring the downstream flows remain at a productive levels to keep the sawfish from migrating upstream by protecting the Sawfish Essential Fish Habitat (EFH) in Charlotte Harbor, then both of these Federal agencies are guilty of not following federal rules by failing to protect a Federally Listed Endangered Species, which violates the law the Endangered Species Act. Likewise by failing to protect the sawfish in the DAEIS the value of Charlotte Harbors future net worth economically as a productive fishery is greatly reduced which will directly result in hundreds of job losses & major tax losses Charlotte & Lee County can ill afford. This would be a giant Lose Lose scenario, which must be avoided in the DAEIS by the Army Corps proactive vigilance. | |
| 000000550-26 | POW & LBC, James Cooper | Environmental Organization | Below are comments from noted regional biologists: Dr. Peebles and Dr. Stevens, whose professional expertise in this matter is literally beyond challenge. Likewise, their comments reinforce each other: that reduced freshwater flows in the Peace and/or Myakka Rivers will produce many significant biotic (biological-ecological) and abiotic (physical) changes in these sawfish hotspots and critical nursery habitat, which will adversely impact sawfish and many other species, many which are important as food for the sawfish. It is equally important to note that these same juvenile sawfish areas are considered Essential Fish Habitat (EFH) as defined by the Magnuson-Stevens (Federal) Act. (EFH refers to any habitat that is necessary to maintain the health and productivity of Federally Managed Species). The Act goes on to say that no federal agency may permit or take any action that will adversely impact EFH. (The Act defines adverse as any action). NOTE 1: The DAEIS should state that NOAAs National Marine Fisheries Service station in St. Petersburg, FL is also the home to the Southeast US Essential Fish Habitat Office. As this important Federal cooperating agency is nearby the Army Corps Team AEIS location in Tampa and they will be commenting on the AEIS and the permits, there should be no problem gaining their input on the DAEIS in a timely manner. NOTE 2: The DAEIS also states the CFPD mines will reduce some flows to | Included in summary response above. |

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| | | | the estuary. However, It also erroneously speculates that reduced flows to the estuary will be offset by less permitted Ag (well) use. Ironically, it is well known that Ag runoff is what contributes to dry season stream flows in those areas. SAWFISH IMPACTS - Conclusion: It is clear the 4 new mines in the DAEIS will certainly reduce downstream flows to the estuary at times in the range of 16-20% or so. In addition, these reduced downstream flows will also adversely impact both the federally protected sawfish & federally managed fish species that use Charlotte Harbor and the lowers areas of the Peace and Myakka rivers in Charlotte County as their essential juvenile nursery habitat. NMFS Points of Contact: David Dale Essential Fish Habitat Coordinator Habitat Conservation Division National Marine Fisheries Service 263 13th Avenue South St. Petersburg, FL 33701 727-551-5736 or Fax (727)824-5300 David.Dale@noaa.gov Mark Sramek (Florida Gulf Coast) Habitat Conservation Division National Marine Fisheries Service 263 13th Avenue South St. Petersburg, FL 33701 727-824-5311 or Fax (727)824-5300 Mark.Sramek@noaa.gov NOTE 3: A Statement from renowned fish biologist: Dr. Ernst Peebles on Sawfish Habitat: The shape of the (Charlotte Harbor) estuary (its geomorphology) affects how the water circulates, so there can be areas where the water suddenly slows down or speeds up. This affects the food web because it affects where plankton blooms can form, and the plankton blooms tend to settle out and subsidize the growth of bottom-dwelling animals that the fish feed on (provided this settlement does not become excessive, in which case it contributes to the formation of areas of low dissolved oxygen). In this way, even fish that live on the bottom are influenced by plankton blooms. The term "hot spot" can either refer to areas of high food availability or simply to areas where the listening stations receive a lot of hits from tagged fish like Phil's sawfish he is tagging & studying. Depending on the interaction between freshwater inflows and the shape of the estuary, feeding hot spots can abruptly shift from one place to another as inflows change. | |

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| 000000550-26 | POW & LBC, James Cooper | Environmental Organization | REALITY of REDUCED FLOWS to the Harbor: When downstream inflows are reduced, feeding hot spots will first get smaller and then shift upstream to the next area where the shape of the estuary causes seaward-moving water to slow down. The upstream hot spot is likely to be smaller than the downstream one. In extreme cases of low flow, the upstream hot spots may get so small that they cannot support much fish biomass. Sharks are likely to be important predators on sawfish. Of the many species of sharks in the Gulf and Charlotte Harbor, only the bull shark regularly ventures into low salinities, so the young sawfish are protected from the majority of other shark species as long as they are in low-salinity water, especially if it's also too shallow for bull sharks to swim in. In that sense, low salinity affords a direct form of protection for young sawfish. Otherwise, salinity may provide an indirect indication of where feeding hot spots are located. NOTE 5: From Dr. Stevens: Sawfish Diet: As for their diet, we are trying hard to find out. When they are first born they appear to be a bit naÃ¨ve, have a rostral sheath that covers their teeth (to protect the mom during birth), and have very small home ranges for some period. For these reasons, our working hypothesis is that they are eating benthic inverts for a short period of time, and then switching to fish at some point. We think they are eating fish because they are well adapted to do so and there is some anecdotal evidence to support this. Because this is an endangered species, we cant just cut them open to find out what they are eating nor can we pump their stomachs because of their strange mouth and throat morphology. We have to resort to using stable isotope techniques to find out about their diet. Er Phils studies we know they eat shrimp, blue crabs, pinfish, mullet, hogfish and plankton. This works on the premise that you are what you eat. If they are eating fish, their tissue signatures will reflect that. SALINITY LEVELS: You asked earlier about their abiotic affinities (e.g., salinity) and their response to variable inflow. We have been doing some work in this regard, especially in the Caloosahatchee. What we have found is that they are caught in salinities ranging 18-24 ppt (from an acoustic study occurring during a wet period) or maybe even 18-30 ppt (from a study occurring during a longer record that incorporated a dry period). They are also caught in very shallow water (6.0 | Included in summary response above. |

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| | | | mg/l). In the Caloosahatchee, we do see responses to changes in salinity (salinity being a proxy for varying inflow and all of the associated changes that go with that). If its been dry a while (say for about three months), then they will relocate upriver. If its been wet, they will relocate downriver. If the flows are colossal, like after a tropical storm, we have seen immediate movement downstream. I used the term relocate above on purpose. When looking at individual tracks of sawfish, we see that when conditions change enough they relocate from one hotspot to another. In other words, they do not spend time in between hotspots, but make rather abrupt movements. This is strong evidence for the idea of hotspots along the environmental gradients and weve got to figure out what makes the hotspots hot. SAWFISH TAGGING MOVEMENTS: As for movements in the Peace, weve only been tracking sawfish movements there for 2 years and we havent analyzed all the data. The way this tracking works is that you tag a fish with a transmitter and then to hear where the fish is going you need an array of listening stations. We have about 30 listening stations in the Caloosahatchee that have been there for about 8 years and now we have about 30 in the Peace and upper harbor. What I can tell you is that the vast majority of our sawfish captures (using nets) has been between 41 and 75 on the north side of the river, just north of the Harbor. | |
| 000000550-26 | POW & LBC, James Cooper | Environmental Organization | The acoustic data will be able to tell us if this is one big hotspot or if the fish are relocating between several. There is one important difference to point out about the Peace. Youll note that in Florida, rivers are typically narrow and deep, and then very abruptly become wide and shallow near the mouth. The wide, shallow area is pretty important for some fishes and has the potential to function differently than the narrow areas further upriver. In the Peace, the river mouth is relatively small compared to the Caloosahatchee. A fish in the Caloosahatchee can move up and down a long, shallow tube that extends 30 km. This is a convenient feature of the Caloosahatchee that probably buffers the effects of varying inflow to a degree. In the Peace, this stretch is basically the distance between 41 and 75. So, if flows there get really low, fish moving upriver will run out of the wide, shallow river morphology more quickly. They will have to either: stay and | Included in summary response above. |

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| | | | deal with higher salinities (low salinity is considered a refuge from predation), move upriver into more steeply sloping banks (shallow water is a refuge from predation), or move upriver and then into shallow backwater oxbows and such. When they move farther up river in narrower areas the nursery gets smaller and produces less fish. So, this is something very important to consider in situations where reductions in downstream inflow may occur; a subject that Dr. Peebles has validated in publications several times. Philip Stevens, PhD Florida Fish & Wildlife Conservation Commission Fish & Wildlife Research Institute Charlotte Harbor Field Laboratory 585 Prineville St. Port Charlotte, FL 33954 Phone: 941-613-0945 Fax: 941-613-0948 | |
| **ECO-2** | | | **The comments suggest that the wetland mapping and data sources used in the Draft AEIS were not the best available. The commentators indicated that wetland and stream mapping in the AEIS was not based on LIDAR and that LIDAR data and mapping is very useful and available from SWFWMD.** | **The Final AEIS has been updated with additional more detailed wetlands and stream data that includes reference to the application of LIDAR data and the basis for the use of the FLUCCS data as a source of mapping information. These discussions are in Chapter 3.3.5 of the AEIS.** |
| 000000199-4 | James Cooper | Private Citizen | I don't think, from what I've seen, and I haven't read all of the information, I don't think that the water impacts are addressed properly in the AEIS, and let me tell you why.I did not see, and I' m going to go back and read it, where they're going to get their data. In other words, do they have pre-mining data for the surface water for all of these mine areas? And then they have to compare the pre-mine data with the post mine. Where are they getting pre-mine data?Along with that, I'm especially concerned that somewhere in the EIS, the last time it was presented to me, it was said, and I may be misquoting this but I'll try to capture what they said.No new data would be used.Well, supposedly, according to their manager there, they will use the best data available. So if they're going to use the best data, then they should use the current data. And I'll give you an example.The U.S.G.S. is very good at detecting and reading Lidar reports. Lidar is available to map the wetland areas where they are right now in the entire Peace River area, because they've already done that.So that Lidar data should be given to the Corps, and the Corps should take that Lidar data and use that for the pre-mine condition. I don't believe they're using any of it.So what I' m | Included in summary response above. |

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| | | | saying to use is that they just use a regular map and some overlay from some GIS product. That is absolutely not the best data available and if we're going to study this thing, we need to us e the best data for the best results. If you don't, then you can't possibly get t he best results. | |
| 000000542-176 | Percy Angelo | Private Citizen | We are also aware, and understand that the Corps is as well, that LIDAR data for all potential mining areas is available from SWFWMD. That data, as demonstrated in prior studies by the USGS, is invaluable for predicting the impact of mining on surface water flows, yet it was not used by the Corps, which apparently preferred to remain willfully ignorant of this important resource and its application. The USGS concluded in its studies, which were supplied to the Corps by Percy Angelo (though the Corps should have had them anyway), that the localized wetlands and streamlets around the larger streams and rivers play a crucial role in supporting flows in those streams and rivers. | Included in summary response above. |
| 000000550-33 | POW & LBC, James Cooper | Environmental Organization | Lack of valid scientific analysis. Presently the flawed DAEIS omits valuable scientific studies & fails to use the best current and available scientific data bases (as Lee County points out) to best identify all wetlands (pre-mining) & all aquifer levels (pre-mining) as suggested by the USGS to preclude major damaging Regional Impacts to the Charlotte Harbor watershed (SEE Synopsis of USGS Fouad & Lee study of Charlie Creek in a watershed Basin in the CFPD using LIDAR). Per Sect. 105.14 of NEPA: The environmental consequences section should be devoted to a scientific analysis of the direct and indirect environmental effects of the proposed action and of each of the alternatives. Yet, the omission of available CHNEP scientific data in the Ona DEIS which are vital Health of the Harbor indicators is a clear violation of NOT using all available scientific data. NOTE: Mosaic touts the use of LIDAR as a wetlands mapping tool of choice in the recent S. Ft Meade Mine planning (See: Mosaic Press release attached) and Mosaic reports it will again be used in their Wingate Mine Wetlands planning. Clearly, LIDAR is the proven, recommended, best scientific available tool for wetlands mapping: SWFWMD has it and USGS can work with construct the best Wetland mapping for all of the 6 FUTURE CFPD Mines in the DAEIS! | Included in summary response above. |

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| **ECO-3** | | | **These comments indicate that there are discrepancies in the steam and wetland impact data presented in certain tables in the Draft AEIS.** | **The discrepancies in the stream and wetland impact data presented in the tables have been corrected in the Final AEIS.** |
| 000000371-37 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Wetland and stream impact values in Table 1-5 aren't similar to those in the Executive Summary or in Table 2-3. There are many other instances where wetland areas, mine areas, stream impact values etc. are not consistent within similar summary tables within the document. There are summary tables in Chapter 5 under mitigation that seem to have better explanations of stream impacts. The values need to be better standardized among tables and sections using consistent terms. | Included in summary response above. |
| 000000542-164 | Percy Angelo | Private Citizen | The mines themselves, and the acreages of wetlands and streams to be destroyed by mining, differ from page to page as well. Compare 1-17 to 1-19 with 2-6 and 4-30. These are big differences-the total differences for the four mines alone involve over 2400 acres of wetlands and almost 200,000 linear feet of streams. | Included in summary response above. |
| **ECO-4** | | | **These comments address the potential dewatering effects that mining has on adjacent wetlands and streams. The commenters indicate that dewatering effects and associated mitigative measures were not sufficiently addressed. One commenter indicated that recharge ditches are not always effective. One commenter indicated that the Draft AEIS did not include discussion of supplying adjacent wetlands with surface water to maintain their hydroperiods.** | **The potential dewatering effects of mining on surrounding wetlands and streams, and the associated measures that are implemented to mitigate dewatering of these habitats are discussed in Chapter 4 of the final AEIS.** |
| 000000280-45 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.11.1 Geology and Hydrology P. 4-164, line 6-16 The AEIS discusses Environmental Management Plans that are incorporated into WUPs issued by SWFWMD that require phosphate mines to initiate appropriate water table drawdown mitigation actions if deemed necessary to prevent dewatering impacts on nearby sensitive ecological habitats. However, there is no discussion of supplying wetlands that are not mined with sufficient surface water to maintain their healthy hydroperiods. Mining around a wetland will produce a topographic island with the wetland water level several feet higher than the water level in the surrounding dewatered area. Measures to maintain surface inflow, as well as elevate groundwater levels, should be discussed. | Included in summary response above. |

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| 000000542-89 | Percy Angelo | Private Citizen | There is no discussion of the dewatering impacts of mining- The DAEIS acknowledges that mining results in dewatering. See 3-68-69, 4-193. See also the studies of Sydney Bacchus, Ex. 9. The mining companies argue that their mining techniques protect wetlands by ditch and berm systems and other methods. Despite these protestations, authorities such as SWFMWD note that they have seen concerns with wetland dewatering as a result of mine pumping and mine dewatering. See Exhibit 6 (Greg Martin article). SWFMWD points out that quantity is not the only factor considered when assessing adverse impacts: location of where the quantity is being withdrawn is just as important. SWFWMD required Mosaic to mark on maps its withdrawal points and mines in relation to the Peace River, wetlands, lakes, contamination sites and areas where SWFWMD has set minimum flows and levels. Id. Despite this the DAEIS does not address the damage due to local wetland dewatering and nowhere provides the straightforward map information deemed essential by SWFWMD, the relationship to rivers, lakes, wetlands, contamination sites and minimum flows and levels areas. The DAEIS pretends that SWFWMD will solve the problem, 4-164, there is no evidence to support this shifting of responsibility. Indeed SWFWMD reports that major water users, other than mining are moving into the southern portion of the basin, 4-194, where they will exacerbate the mining impacts. Mosaic officials, responding in the Martin article cited above, are described as saying that the crux of the discussions with SWFWMD is over trigger levels. Mosaic is trying to reach agreement with the district about what level of ecosystem degradation would trigger a remedial action. Ex. 6. Read this again, Mosaic is trying to negotiate an acceptable level of ecosystem degradation. Yet the DAEIS never recognizes the possibility of ecosystem degradation. There is no excuse for this ostrich like behavior. The full set of SWFWMD questions to Mosaic were provided to the Corps. The Corps approach is consistent with the concerns expressed above: the Corps has simply decided to abandon the entire CFPD to mining. This is egregious and highly improper. | Included in summary response above. |

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| **ECO-5** | | | **Comment was made that more detail should have been provided on all species of wildlife that might be affected by the proposed projects including data on breeding bird surveys and migratory species.** | **The potential impacts of the proposed actions on wildlife, including birds, will be coordinated with the USFWS in accordance with federal regulations.** |
| 000000373-12 | Audubon Florida, Eric Draper | Environmental Organization | Wildlife Impacts: The draft makes specific note of listed avian species and cites Dr. Herb Kales study of bird species found near mined sites. Audubon recommends that the AEIS include lists of all avian species identified in the area and that these species lists be used in consideration of permitting, mitigation, and reclamation decisions. | Included in summary response above. |
| 000000546-2 | US Department of the Interior, Joyce Stanley | Federal Agency | Section 3.3.6 Wildlife and Protected Habitat The document describes studies that include inventories of species (pg. 3-118); however, the document does not identify the species that might be impacted. We suggest that the Final Environmental Impact Statement (FEIS) include an evaluation of the species that might be impacted; by habitat. Information is available in the United States Geology Survey (USGS) Breeding Bird Survey site, which includes routes that are close to the project area. The locations of the bird routes for Florida can be found on the internet at: http://www.pwrc.usgs.gov/BBS/results/routemaps/routeMapStatic.html. The list of species for each route is available at: https://www.pwrc.usgs.gov/BBS/PublicDataInterface/index.cfm. Routes are available at: http://www.pwrc.usgs.gov/BBS/results/routemaps/routeAssignMap.cfm. The degree to which bird populations may be affected depends on the status of the species. We suggest the Final EIS include a list of birds in the area, and an evaluation of the likely impacts relative to the trends in the status of avian species. Information on the trends in bird populations can be found at http://www.mbr-pwrc.usgs.gov/bbs/bbs.html and in Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2011. The North American Breeding Bird Survey, Results and Analysis 1966 - 2010. Version 12.07.2011 USGS Patuxent Wildlife Research Center, Laurel, MD available online at http://www.mbr-pwrc.usgs.gov/bbs/ | Included in summary response above. |

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| **ECO-6** | | | **Comments proposed that additional detail be included on scrub habitat and relevant reclamation of these habitats.** | **This is information that is in the four applications, and in the four public notices: Chapter 3 of the Final AEIS has been updated to include the results of surveys for federally-listed species for the four proposed actions, including species found in scrub habitat. The impacts of the four proposed actions on federally-listed species will be coordinated with the USFWS. Reclamation of upland habitats, including scrub, is beyond the USACE's regulatory authority.** |
| 000000373-9 | Audubon Florida, Eric Draper | Environmental Organization | Integrated Habitat Network, Critical Lands and Waters Identification Program (CLIP) and the Integrated Wildlife Habitat Ranking System (IWHRS): The draft does a good job of describing these planning tools, which should be used voluntarily by applicants to plan for areas of avoidance and minimization and to plan reconnecting wildlife habitat. Audubon recommends citing Florida Important Bird Areas as reference http://web4.audubon.org/bird/iba/gulfIBAslist.html#FL. Audubon notes that the Draft AEIS reports that most xeric scrub and high quality habitats are currently avoided. We support continuing this approach. There is substantial evidence of protection and enhancement for upland species including the Florida Scrub-jay in current practices. Audubon urges the inclusion in the final AEIS of additional strategies to save this species from extinction. | Included in summary response above. |
| 000000378-18 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 19: The AEIS provides inadequate discussion of impacts to scrub habitats and the federally-listed species they support. Chapter 5 of the AEIS notes that xeric scrub habitats within the CFPD have the potential to support several scrub-dependent listed species including the federally-listed Florida scrub jay, bluetail mole skink (Eumeces egregius lividus), sand skink (Neoseps reynoldsi), Florida bonamia (Bonamia grandiflora), Florida golden aster (Caryopsis floridana), and perforate reindeer lichen (Cladonia perforata). Yet Chapter 4 (Environmental Consequences) of the AEIS provides no discussion of environmental consequences of mining on these federally-endangered or threatened species, nor of scrub habitat, which is one of the rarest and most threatened upland habitat types in Florida. Similarly, Chapter 3 (Affected Environment) mentions that federally-listed species occur in scrub habitats, but does not address scrub | Included in summary response above. |

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| | | | habitats as an imperiled ecosystem. Chapter 5 does state that phosphate mining companies avoid and preserve xeric scrub habitats to the extent practicable, and discusses ways in which impacts to scrub habitats are mitigated. What is missing, however, is any presentation or discussion of the projected loss of scrub habitat associated with the proposed mines, or the extent to which these impacts will be adequately mitigated. Of the five federally-listed species the AEIS acknowledges as occurring in scrub habitats of the CFPD, impact minimization and mitigation measures are discussed only for one of them (i.e., the Florida scrub jay). The AEIS should fully evaluate the impacts of phosphate mining on this critically endangered upland habitat and the listed species it supports. | |
| **Individual Comments** | | | | |
| 000000199-7 | James Cooper | Private Citizen | The draft EIS for some reason, omits a very important thing, that's the impact of the fertilizer plants which turned rocks in fertilizer and big GYP stack mountains they create which, by the way, hold forever hazardous waste, and it can't be used for anything except harming things.We have a problem like they did, for example, in Manatee County. When they have a GYP stack filling out with rain water, the state spent between 150 million to $200,000, 000 in capturing out water by putting in barges and taking it out into the gulf and dumping it.So what they did is they didn't pollute the harbor, they just polluted the gulf. So where does pollution go? It comes down into our harbor. So I mean, you know, thats not the best way to do it. There are ways that that can be prevented, but those aren't counted in the study for the water as are the clay settling areas. And they create these new clay settling areas. The clay settling areas are not covered as being ways of impact because I think that they think theyre temporary. Well to me, if a clay settling area se t s out there for 20 years or more, its not temporary. And if I go to turn my faucet on and the water doesnt come out, its not temporary. | The Final AEIS provides clarification of the management and regulatory responsibilities for Gypsum Stacks and why they are outside the scope of this AEIS. CSAs are included in the impact analyses, including of impacts to surface water flows, in Chapter 4 of the Final AEIS. |
| 000000272-10 | Sarasota County, FL, Christine Robinson | County Government | The negative impacts of phosphate mining on Florida's environment have been reduced over the decades. Drastic aquifer drawdowns, for example. are less than they used to be. According to FDEP Bureau of Mines staff (personal communication at AEIS meeting) many of the permit | Chapter 5 of the Final AEIS has been updated to include discussion of potential permit conditions, and other measures to better ensure permit compliance. |

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| | | | requirements that result in better mining practices are not codified in law. The AEIS should include an analysis of permit conditions that minimize the negative impacts of mining, so that those permit conditions are included in future mining permits issued by the ACOE. It would make sense for the AEIS recommendations to suggest that such permit conditions be codified in law or policy. | |
| 000000272-12 | Sarasota County, FL, Christine Robinson | County Government | Sarasota County in cooperation with partners has a significant investment in preservation of natural systems. Connectivity to other preserves is a well established concept for wildlife management. For example, new research published online in The Royal Societys journal Biology Letters shows that clustered habitat networks are needed to maintain the genetic diversity of Florida Scrub-Jays, a species at risk of extinction with just more than 9,000 birds left in the world (Boughton and Bowman 2011). The AEIS should support interconnectivity of wildlife corridors to protect the preserved areas in Sarasota County as well as those comprising regional habitat networks vital for the long-term persistence of numerous listed and common species. Boughton, R. and Bowman, R. 2011. State wide assessment of Florida Scrub-Jay on managed areas: A comparison of current populations to the results of the 1992-93 survey. Report to USFWS. | Your comments regarding the importance of habitat connectivity/corridors to wildlife and listed species are acknowledged. Chapter 3 of the AEIS discusses the importance of habitat corridors and FDEP's Integrated Habitat Network. Chapter 5 of the AEIS discusses how the phosphate industry currently conducts mitigation and reclamation in accordance with the goals of the IHN, which include the goal of increasing the amount and quality of wildlife habitats and corridors within the region through habitat replacement, protection, and connection. Chapter 5 also discusses the conservation practices implemented by the phosphate industry for Florida scrub jay. |
| 000000272-35 | Sarasota County, FL, Christine Robinson | County Government | In addition, please clarify if the acres of wetlands proposed to be affected constitute only ACOE jurisdictional wetlands or all wetlands jurisdictional to federal and state agencies. In addition, please revise Table 4-8 to indicate clarify or define the composition of "other wetlands". | The "other wetlands" category primarily includes surface waters such as ditches and ponds. The Draft AEIS presented wetland acreages for the currently proposed mines based on 2009 FLUCCS data/mapping. These acreages represented all wetlands without distinction of federal or state jurisdiction. Based on comments received on the Draft AEIS, the Final AEIS has been revised to include wetland data from the applicants' federal 404 permit applications. These acreages represent USACE jurisdictional wetlands and are more accurate as they are based on field surveys. |
| 000000272-36 | Sarasota County, FL, Christine Robinson | County Government | The narrative on Page 4-32 indicates that mining associated with the DeSoto Mine is being excluded from the 100 year floodplain areas of Horse Creek and its tributaries. To allow a compete evaluation of the extent of impacts to wetlands, forested riparian areas, and 100 year floodplain areas within the four currently proposed mines, the future mines, and the AEIS Alternative polygons illustrated on Figure 2-36, please | The 100-year floodplain is not included on the figure as it is not a fixed criteria for avoidance that applies to all mine sites. Under the mitigation framework that has been developed for the Final AEIS, the 100-year floodplain is identified as an impact avoidance criteria for consideration by USACE during reviews of the four currently proposed mines. |

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| | | | provide a graphic enlarging Figure 2-36 and overlaying the 100 year floodplain within Myakka and Peace River watersheds. | |
| 000000272-38 | Sarasota County, FL, Christine Robinson | County Government | In narratives contained in the Draft AEIS, the qualities of wetlands are vaguely described as low, moderate, and high. Page 4-158 indicates that wetlands possessing UMAM or WRAP scores of 0.7 or higher are considered to be of high quality. To allow adequate evaluation of the AEIS Alternatives in Chapter 4, please revise the AEIS to define moderate and low quality wetlands in terms of UMAM and WRAP numerical scoring to allow AEIS Alternative analysis and wetland quality evaluation in uniform scoring recognized by federal, state, and local wetland permitting agencies. | Under the mitigation framework that has been developed for the Final AEIS, wetlands within the currently proposed mines will be evaluated for avoidance consideration specifically based on their WRAP/UMAM scores and based on other factors outside these functional analysis methods. It is not possible for the AEIS to assess the qualities of wetlands in areas outside the currently proposed mine sites based on their WRAP/UMAM scores because such information is not available for those wetlands. |
| 000000272-39 | Sarasota County, FL, Christine Robinson | County Government | The Florida Department of Environmental Protection documents in its Peace River Cumulative Impact Study that past mining activities have resulted in the net loss of wetlands and streams. Given this finding and given that future mining should not result in a net loss of wetlands and streams in the Peach River area, the AEIS Alternatives analysis should be integrated into the permitting process for the current and proposed mines to ensure that all mining conducted following the issuance of the Final AEIS results in no net loss of wetland or streams within the watershed areas contained within the CFPD, or at minimum within the Peace River Watershed portions contained within the CFPD. | USACE evaluates all proposed phosphate mines in accordance with its regulatory authority to implement the federal "no net loss" policy. The AEIS is the NEPA document for the four proposed actions, in including the alternatives analysis. |
| 000000272-41 | Sarasota County, FL, Christine Robinson | County Government | Regarding the preservation of post-mining areas, please revise page 5-24 to clarify if all wetland re-creation, wetland mitigation, upland re-creation areas, and listed species recipient sites upon formerly mined lands are preserved in perpetuity under conservation easements or other preservation mechanisms. | The Final AEIS has been clarified to note that phosphate mining companies are required to place conservation easements on all mitigation wetlands. Other areas, e.g., those which exist within designated avoidance, as well as areas outside the mine site for the purpose of providing habitat/corridor connectivity, may also be preserved in perpetuity through conservation mechanisms. The specific areas that would be preserved by the four currently proposed mines have yet to be determined as the mitigation plans, which include identification of the preservation areas, are still being developed in coordination with the regulatory agencies. |
| 000000272-54 | Sarasota County, FL, Christine Robinson | County Government | Also, a no net loss of wetland analysis of the CFPD Area from 1940 to the most current data should be included. | The federal no net loss of wetlands policy was adopted in 1989. As such, assessment of no net loss of wetlands would |

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| | | | | be restricted to those wetlands that were lost after 1989. |
| 000000272-59 | Sarasota County, FL, Christine Robinson | County Government | 4-1 The decision to utilize the IWHRS and CLIP disregarded other parameters such s ground water, water quality, topography and soil maps and were based on pre-assumptions. To provide a more thorough analysis and corroborate the information gathered by the above tools, it is recommended that areas mapped via IWHRS or CLIP be ground-truthed by sampling random sites throughout the CFPD and in each watershed. | Conducting field sampling of areas evaluated by IWHRS and CLIP is beyond the scope of the AEIS; however, extensive field studies have been conducted for the four currently proposed mines and extensive field studies would be conducted for any of the sites that may be proposed for mining in the future. The ecological evaluations conducted for the offsite alternatives, which included the use of IWHRS and CLIP, were conducted to estimate the types, quantities, and qualities of the habitat types that exist on the sites. These evaluations may be used by USACE and other agencies during decision making on any future proposals to mine in these areas. Under the mitigation framework developed for the Final AEIS, USACE permit reviewers may consider the use of CLIP to support their impact avoidance evaluations. |
| 000000272-60 | Sarasota County, FL, Christine Robinson | County Government | 4-2 Please clarify the discrepancy between Table 4-13 and Table 4-14 on the acres of Wetland/Hydric Soils Acreage versus Total Wetlands (Page 4-54). | The wetland/hydric soil acreages differ from the total wetland acreage because the source of the soil data/mapping is the Natural Resource Conservation Service (NRCS) and the source of the wetland data/mapping is the SWFWMD FLUCCS. Both sources utilize GIS-based mapping technology with ground-truthing. There will almost always be differences between the two data/mapping systems and the accuracy of both systems is limited by the mapping technology used. As such, not all areas mapped as wetland/hydric soils by the NRCS are wetlands and not all areas mapped as wetlands by FLUCCS are wetlands. This GIS-based data/mapping are good sources of data/mapping for general assessments of large areas while detailed field investigations are required for more accurate assessments of the areas. |
| 000000280-11 | Lee County, FL, Roland Ottolini, P.E. | County Government | This area has been designated the Density Reduction / Groundwater Resource (DRGR) in recognition of the areas role in the regions ground water supply. While not as expansive as the Central Florida Phosphate District (CFPD), projects within the DRGR are none the less assessed for similar reasons. The potential for similar adverse impacts is also evaluated due to projects within the DRGR being located at the headwaters of several Outstanding Florida Waters (OFWs) and an Aquatic Preserve (Estero Bay). There is a general understanding of the downstream impacts of these developments on sensitive receiving waters. One of the nuances of an OFW is any | The Final AEIS has assessed the cumulative impacts of foreseeable mining on potentially affected resources through 2060 in accordance with the CEQ to the extent allowable by available data and analytical methods. Cumulative impacts were assessed for aquatic resources, upland habitat, groundwater, surface water hydrology (including downstream water deliveries to the Myakka River, Peace River, and the Charlotte Harbor Estuary), water quality, and economics. |

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| | | | increases in water quality above background is considered a violation. Simply meeting standards is not sufficient to protect existing aquatic systems. One would hope the AEIS would also require a similar level of assessment of the cumulative impact on the sensitive receiving waters and estuaries relative to the CFPD. This is due to the estuarine and critical nursery habitat potentially at risk, as well as potential impacts to the entire economically associated marine and tourist industry. This would include all of the potentially impacted or downstream creeks, rivers and estuaries, as all would be potentially be influenced by water quality degradation or any changes to quantity, timing or distribution to the system. Such potential changes may include but not be limited to source modifications to the receiving waters. | |
| 000000280-12 | Lee County, FL, Roland Ottolini, P.E. | County Government | To that end, it is not out of line to request background assessments made in the receiving waters as well as the existing sources (which will be disturbed or destroyed by the proposed action) prior to permit issuance. This is important due to the potential loss of the freshwater timing and distribution for downstream aquatic flora and fauna in the receiving waters and the associated habitat. | The Final AEIS has assessed the average seasonal flow levels and background water quality of waters both within the CFPD and downstream of the CFPD based on available data. Please refer to the respective surface water and water quality sections in Chapter 3 and 4 of the Final AEIS. |
| 000000280-14 | Lee County, FL, Roland Ottolini, P.E. | County Government | ES.6.1 Ecological Resources P. 14, line 7 - Is there concern for the comparison for no action versus action? It would seem appropriate to determine background or natural conditions. | The text that is referenced in your comment pertains to the use of IWHRS and CLIP to evaluate the quality of habitats that exist within the alternative sites. These evaluations may be used by USACE and other agencies during decision making on any future proposals to mine in these areas. Such ecological evaluations are not needed for the no-action alternative. |
| 000000280-31 | Lee County, FL, Roland Ottolini, P.E. | County Government | P. 3-84, line 9-14 and Appendix B Numerous highly protected water bodies (Outstanding Florida Waters, Class I and Class II), including the lower portion of Horse Creek, exist downstream of the proposed projects. These sensitive water bodies are much closer to the proposed projects than existing mines that are located farther north, and are thus more vulnerable to water quality impacts. Enhanced structural and non-structural Best Management Practices (BMPs) must be required and their continued functionality rigorously enforced to provide reasonable assurance that future mining operations will not affect these waters. The Applicants ability to provide this assurance must be demonstrated for isolated and periodic | Appropriate BMPs will be identified in the permit conditions of any issued federal 404 permit and USACE will ensure that they are implemented as part of its regulatory obligation to enforce compliance to the conditions of the permits it issues. |

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| | | | events, not just for long-term average conditions. | |
| 000000281-11 | Sandra Ripberger | Private Citizen | Purpose and Need 1.1.3.1 The history of mining does not mention industry bankruptcies or catastrophic spills including the massive Piney Point discharges into Tampa Bay, with clean-up costs close to 200 million, paid for by Florida taxpayers. This site continues to cause environmental problems. During the breach at Mosaics phosphogypsum stack on Archie Creek approximately 65 million gallons of acidic process water were discharged from the stack and reached Hillsborough Bay. | Direct and indirect effects of gypstacks are outside of the scope of the AEIS. This position has been clarified in the Final AEIS. Gyp stacks are considered in the cumulative effects analysis, in accordance with CEQ regulations and guidance in Section 3.3.7.7. Regarding the CSA spills issue, this Section also includes a summary of these issues although the USACE defers to the state which has primary responsibility for spills management. |
| 000000281-21 | Sandra Ripberger | Private Citizen | 4.3 Ecological Resources The study says that 30% of the land in the four proposed mine areas consists of land designated by the state for potential conservation as part of the Integrated Habitat Network. And then states that it is unlikely that the state will have the funds to acquire this land so it will remain in current uses. This is not a valid rationale for allowing mining to disrupt these sites. | The potential for the State to not have the funds to conserve land would not be used as a rationale/reason for decision making by USACE or FDEP to allow mining of that land. Some habitats within the IHN are of high quality and others such as agriculture are of low quality. The mitigation framework that has been developed for the Final AEIS identifies a habitat's location within the IHN as a factor that may be considered by USACE permit reviewers during their impact avoidance evaluations. |
| 000000281-31 | Sandra Ripberger | Private Citizen | 4.12.3.2 Aquatic Resources This statement is untrue but indicative of the invalid, industry fed assumptions upon which the AEIS is based: Current mine operations have demonstrated in many ways a return of native habitats to former conditions. | The statement that is referenced in your comment reads: "However, substantial improvements were made in reclamation programs and restoration effectiveness until the current mine operations have demonstrated in many ways a greater return of native habitats to former conditions". This statement indicates that reclamation/mitigation technology has improved over time and has led to a "greater" return. The AEIS acknowledges the past ineffectiveness of early efforts, the improvements of the technology over time, and the need for further technological improvements and studies. |
| 000000349-24 | Robert Fellman | Private Citizen | Executive Summary and Chapter 4 Section ES6.1 Pages: Various, Chapter 4 Page 4-158 Issue: Use of UMAM scores to define the setback allowances for wetlands Comment: The AEIS states (see page 4-158) that it used an UMAM score of .7 or greater to define a "high value" wetland. On February 2, 2012 a meeting of the Manatee County Commissioners was held in Bradenton for the purpose of changing the zoning status for the Wingate Extension, a roughly 661 acre parcel located in Manatee County. In testimony presented by Mosaic at a meeting, Mosaic showed that it planned to reclaim a | Mosaic's agreement with Manatee County regarding reclamation of wetland(s) is not related to the AEIS. |

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| | | | wetland that would need to be removed as part of the "Wingate Extension". Mosaic agreed to reclaim the wetland and restore it to a UMAM value of .65. Why has Mosaic used .7 as the cut-off value in this study? | |
| 000000355-5 | Sarah Hollenhorst | Private Citizen | I believe the Migratory Bird Treaty Act of 1918 and the Migratory Bird conservation Act of 1929 will be violated as the areas to be mined are not only nesting areas historically for threatened, endangered, and migratory birds, but also historical feeding grounds for nestling support. Bald Eagles use the same nests historically, are subject to disturbances, and the destruction of areas near historical nesting sites violates the Bald and Gollden Eagle Protection Act of 1940, as amended. > I believe the draft and plan is not in compliance with the Endangered Species Act of 1973 as by directly affecting the waterhed of the CHNEP it is likely to jeopardize the continued existence of endangered and threatened species or result in the destruction or adversely modify the habitat of such species. One species as an example is the manatee and its dependence on sea grass beds. | Potential impacts to wildlife and listed species are discussed in Chapter 4 and associated conservation measures are discussed in Chapter 5. The need for the applicants to comply with other agencies' regulations, such as the Bald and Golden Eagle Protection Act of 1940, is discussed in Chapter 6. The USACE will coordinate impacts to wildlife and habitat, including to listed species, in accordance with federal regulations. |
| 000000358-1 | James Comfort | Private Citizen | The attached images are from Charlotte County Prairie Creek Environmental Area very close to the DeSoto County line. They were recorded May 24, 2012. As seen om the image Prairie Creek is really quite low. My point is that even minimal impact on the stream flow could have a substantial effect on such an already diminished water flow and possibly this Prairie Creek Environmental Area. The environmental impact statement seems quite limited in only considering Florida Scrub Jays (which are quite common in this area), a Sparrow and Crested Caracara as birds of concern. The Swallow-tailed Kites pictured the same day snatching tree frogs for in air snacks are one example of the environmental diversity afforded by the carefully saved environmental areas in Southwest Florida. It is a thrill for some people to witness these activities and a part of what makes Florida a desirable place to live. I did not see any discussion in the impact statement about the effect of diminished water flows in the area as far downstream as Charlotte County or the potentially disastrous effect on expensively acquired properties such as Prairie Creek Preserve which are a part of environmental ambiance of Florida living. | Deer Prairie Creek Preserve is outside the CFPD and there will be no direct or indirect impacts to this area. The Final AEIS has also addressed the potential effects of the proposed action on the portions of the Peace and Myakka River Watersheds within the CFPD as well as the portions of these watersheds outside the CFPD that receive drainage from areas within the CFPD. There are no impacts that are expected by the proposed actions that would affect the hydrology or natural ecosystems of the preserve. |

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| 000000369-31 | Manatee County, FL, Ed Hunzeker | County Government | 10. Section 4-12: The Manatee County Phosphate Mining Code, Ordinance 04-39 requires a Cumulative Impact Assessment be performed for proposed mining plans. One issue to be reviewed as part of this assessment is wetland loss and reclamation on five-year intervals. The use of the CLIP aggregate analysis gives an overview of the ecological importance and conservation value of a given site on a conceptual level but does not give specific information on wetlands or wildlife on an individual site basis or the effects of wetland loss on a cumulative temporal scale. An evaluation is needed that assesses the wetlands of each alternative, the loss of such wetlands and a cumulative analysis is needed for such loss until 2060. Use of the individual data layers, as recommended by the Critical Lands and Waters Identification Project (CLIP): Version 2.0 Technical Report ¬January 2012 for both wetland and wildlife is needed to evaluate the site for present conditions and temporal scale changes. a. On Map A2-3 the CLIP aggregate Priority 1 and 2 areas do not extend to some areas of the 25-year floodplain. This is an example of the flaw in using this type of data model within the AEIS. The floodplain data layer is a subset of the surface water layer which is a subset of the aggregate data layer therefore valuable information is not shown. Again this is an example of why the use of the individual layers (such as Wetlands) of data would provide a more accurate picture of ecological resources. b. It is recommended that USACE provide comparisons between the alternatives using individual CLIP data layers. | As your comment points out, depending on the model and data layers used, CLIP can provide a broad assessment of the overall ecological quality of an area, or it can provide a more focused assessment of the quality of a specific resource within an area, such a wetlands. In the Final AEIS, the CLIP aggregate model is used to broadly assess the overall ecological quality of the alternatives. Under the mitigation framework, CLIP could be used by permit reviewers as a supplemental means of assessing the quality of wetlands within a mine site. According to the CLIP tool, CLIP Priority 1 and 2 wetlands would represent wetlands of relatively high quality within the mine site. However, because CLIP is primarily based on GIS data, it does not assess wetland quality as accurately as UMAM or WRAP, which assess wetland quality based on data collected in the field. Therefore, CLIP is proposed to be used under the mitigation framework as a supplemental tool only; the assessment of wetland quality by CLIP is to be viewed in light of its potential inaccuracy. |
| 000000369-39 | Manatee County, FL, Ed Hunzeker | County Government | 5. Section 4-10: In its current state the IWHRS analysis is insufficient in detail to review direct, indirect or cumulative impacts or their significance to the CFPD. The results of the IWHRS analysis should be incorporated to identify and compare ecologically important habitat for wildlife on each alternative and between alternatives. Protected species should be identified and loss of such ecologically important habitats should be quantified. | The Final AEIS has used IWHRS in a general capacity to evaluate the alternatives. Potential impacts to wildlife and listed species are discussed in Chapter 4. Wildlife conservation measures and the mitigation framework are discussed in Chapter 5. The USACE will coordinate impacts to wildlife and habitat, including to listed species, in accordance with federal regulations. |

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| 000000371-16 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | What percent of currently "ditched" streams are in poor condition? A case could be made to mine and restore streams that are in a degraded state - but a good case could also be made to preserve higher quality streams. The AEIS needs to provide estimates of how much stream distance or area is low quality and how much is higher quality. | For the Final AEIS, the quality of the streams within the currently proposed mines have been estimated based on groundtruthed information contained within the respective 404 permit applications and based on the CLIP tool. As part of the consideration of onsite alternatives, a mitigation framework was developed based on public/agency comments received on the Draft AEIS and workshops USACE conducted with USFWS, USEPA, and NMFS. The framework identifies priority-based impact avoidance and minimization criteria and approaches, including avoidance of streams. This framework is described in Chapter 5 of the Final AEIS. |
| 000000371-17 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The 4 mines evaluated under alternatives 2-5 would impact more than 50 miles of existing streams, which are simply listed as a combination of natural and ditched streams the AEIS does not contain much information about these streams what kinds of streams, what is the existing quality, types of habitats how much of the ditched streams could be listed as having poor habitat? Why mine high quality natural streams? It is hard to evaluate these impacts without knowing this type of information. | For the Final AEIS, the quality of the streams within the currently proposed mines have been estimated based on UMAM/WRAP data/mapping contained within the respective 404 permit applications and based on the CLIP tool. |
| 000000371-28 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "Imposing conceptual buffers on these areas (streams and priority areas) resulted in a lesser level of environmental protection and reductions on the minable reserves." Obviously buffers decrease mineable land, but the AEIS needs to do a much better job of explaining how buffers can reduce environmental protection. The AEIS implies that mining would have a benefit by ultimately providing greater protected habitat over the no-action alternative. How can mining uplands uplands only, provide less environmental protection than allowing mining in uplands, wetlands and streams? The AEIS needs to explain this concept. Wetlands lost from urbanization would (if permitted) require far more mitigation than mining under exiting required replacement of functionality. Agriculture typically doesn't change topography and/or soil structure. The AEIS just assumes that none of these to be mined wetlands or streams would eventually be transferred to public ownership or conservation easements unless they are mined first. This assumption seems unrealistic given decades of land acquisition by both state and local governments and the direct transfer of agriculture land to | The language in the Draft AEIS that gave the impression that mining is environmentally better than no mining alternatives due to the benefits of reclamation has been removed from the Final AEIS. |

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| | | | urban development during normal economic times in the study area. | |
| 000000373-10 | Audubon Florida, Eric Draper | Environmental Organization | The draft omits reference to the use of 25% of the phosphate severance taxes to support the state Conservation and Recreation Lands Trust Fund. These funds, appropriated by the Legislature, should be targeted to help remedy offsite impacts and acquisition of habitat for protected species. The percentage of funds collected and even the rate could be increased to provide for additional land conservation. In general Audubon recommends that state and federal agencies work with the phosphate mining companies to permanently conserve from development as much land as possible. The draft incorrectly claims that ad valorem taxes collected by the Southwest Florida Water Management District help support land conservation. Such support comes from State funds. In reality, the Districts funds from ad valorem and state sources have been reduced to the point that that District is not a reliable source of funds. The final AEIS could emphasize the importance of restoring these funds as a part of a long term strategy. | The purpose of the AEIS is serve as the NEPA analysis of the four proposed federal actions, including their impacts and the potential mitigation of those impacts. Although that mitigation may include conservation/preservation of wetlands, additional conservation/preservation is beyond the regulatory authority of the USACE. |
| 000000378-14 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 14: The AEIS likely under-represents the linear feet of streams affected by mining. I have on more than one occasion found intermittent stream systems on lands proposed to be mined that were not indicated on mining company maps and not included in the calculated totals of lengths of streams to be affected. The reasons for these omissions of stream segments in mining company documents is not clear, but might be due to lack of adequate ground-truthing, forested canopy coverage that obscures the stream channel on aerial photographs, or over¬reliance on streams designated on USGS topographic quadrangles. Whatever the reason, the linear feet of stream proposed to be affected in Table ES-2 should be considered not be considered reliable until such time that the accuracy of the stream mapping efforts for each mine can be verified. | The AEIS and the individual project reviews will use the best available information, including on streams. |

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| 000000378-17 | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 17: The AEIS ignores the Floridan aquifer system drawdown associated with the Wingate East and South Pasture mine extensions. The AEIS (p. 22) appears to dismiss the hydrologic impacts of the Wingate East and South Pasture mine extensions on the Floridan aquifer system (FAS) because those are extensions of existing mines; no new FAS water allocations are involved in their operations. These mine extensions still require environmental permits and approvals, so the fact that they are extensions should not justify the dismissal of their impacts. At the very least such mine extensions involve the prolonging of the consumptive water use of these mines over additional decades, and therefore contribute to prolonging the reduction of river baseflows and lake/wetland stages. WEA COMMENT 18: The AEIS provides minimal discussion of the ecological effects of mining-related Floridan aquifer system drawdowns on local and regional wetlands and streams. The AEIS (pp. 22-23, 3-63 to 3-67, Figures ES-5 and ES-6) acknowledges that with mining-associated dewatering of the FAS has contributed to reduced groundwater contribution to river baseflows and lowered lake and wetland stages. The AEIS notes that the cessation of flows at Kissingen Spring was in part due to phosphate mining use of FAS wells for water supply. The AEIS notes that ...in the Upper Peace River Watershed where extensive presence of karst formations exists, mining water supply withdrawals from the FAS almost certainly contributed to regional FAS drawdown that also contributed to lowered aquifer gradients within the overlying IAS and SAS. The AEIS (p. 3-67) cites a USGS investigation of Charlie Creek demonstrating the linkage between Upper Floridan aquifer water levels, upward groundwater discharge, base flow contributions, and creek streamflow. USGS ...found that the artesian head conditions (i.e., pressure from groundwater) in the intermediate aquifer system were an important source of upward flow to the surficial aquifer in the vicinity of headwater wetlands and stream channels. Artesian head conditions in the intermediate aquifer system were consistently associated with wetland-dominated headwater regions which prevent water in the surficial aquifer and wetlands from recharging downward. Because of this demonstrated phenomenon, it was concluded that a reduction in artesian head pressure in the intermediate | The current condition of water levels in the various aquifers is described in Chapter 3 of the Final AEIS. The impacts associated with the proposed actions, including on surface water and groundwater, are described in Chapter 4 of the Final AEIS. |

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| | | | aquifer system would result in reduction of streamflow by lowering wetland water levels, increasing depression storage, and reducing the frequency with which water stored in the wetlands spills over to streams. So, the AEIS makes it clear that FAS withdrawals can and do result in lowered levels in the SAS and therefore lowered levels in wetlands connected to and maintained by the SAS. However, there is no real discussion in the AEIS of the ecological impacts to wetland, lake, and riverine systems associated with such lowered baseflows and stages. In the Water Resources discussion, the AEIS (p. 3-67) briefly cites a study by Bacchus et al (2011) linking vegetation stress to groundwater withdrawals, but there is no other mention or discussion of ecological drawdown effects. With regard to the drawdown impacts specifically associated with the proposed mines, the AEIS acknowledges that maximum drawdown effects of the Desoto and Ona mines is on the order of 4 and 6 feet, respectively. The AEIS then states that essentially no effect was predicted on water levels in areas prone to saltwater intrusion or to inland areas east of the CFPD boundary. | |
| 000000378-17 | Winchester Environmental Associates, Inc., Brian Winchester | Company | The AEIS fails to address the induced effects of FAS drawdowns on the SAS and all the unmined wetland systems inside the CFPD boundary. Considering that the CFPD encompasses an area of 1.32 million acres, this is a disturbing oversight. It should be noted that a drawdown of average wetland water levels of even 1 foot is enough to significantly damage some types of wetland systems. Figures ES-5 and ES-6 depict the simulated FAS drawdowns associated with the Desoto and Ona Mines, respectively. Based on those figures, roughly 300 square miles or 192,000 acres are within the simulated 1-foot drawdown contours of the two mines. Table ES-2 indicates that 18.8% of the lands to be disturbed by the Desoto mine are wetlands, and 22.0% of the lands to be disturbed by the Ona mine are wetlands. Applying those percentages to the lands within the 1-foot simulated contour of each mine would result in over 40,000 acres of potentially affected wetlands. Of course the relationship between FAS and SAS drawdowns are not one-to-one, and site-specific conditions would determine the actual wetland impacts resulting from groundwater withdrawals in each area, but there nevertheless remains the possibility of drawdowns | The impacts associated with the proposed actions, including on surface water and groundwater, are described in Chapter 4 of the Final AEIS. |

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| | | | adversely impacting thousands of acres of wetlands in addition to those physically lost due to mining. These wetland impacts should have been evaluated in the AEIS. | |
| 000000389-4 | Helen Comfort | Private Citizen | It seems to me that it is a travesty to environment to let Mosaic do their mining. We live beside Laishley Park and look east toward I 75 bridge, overlooking the Peace River. Always, since 1998, the tide would go out different amounts. The most would be almost to our window looking out from a 4th floor condo. The sandy envornment would be bared, different amounts. The birds wouldd be busy feeding. Usually, the water did not recede that much from the mangroves on shore - different amounts. We used to enjoy migrating birds landing for a few days and catching fish from the water below us. Since January, maybe before, they no longer land. The water, even before the rains, no longer recedes at all from the mangroves. The water has looked strangely high. We miss the activity. Mosaic owns land North adjacent to the Peace River. Could they be negatively impacting the tides, the height,and purity of the water? | Based on the hydrologic modeling and water quality impact analyses conducted for this AEIS, the proposed mines, individually or collectively, would have no effect on the tides, water quality, or ecology of areas downstream from the mines. The supporting analyses are discussed in detail Chapter 4 of the Final AEIS. |
| 000000394-1 | Sanibel-Captiva Conservation Foundation Marine Lab , Richard D Bartleson, PhD | Environmental Organization | The Sanibel-Captiva Conservation Foundation and its Marine Laboratory has a goal of protecting local waters, and we have concerns about the impact of high phosphorus loadings and alterations in water flow and timing associated with phosphate mining on Charlotte Harbor and the Gulf of Mexico. The permitting of more phosphate mining in the Charlotte Harbor Watershed is not protective of the estuary and will cause eutrophication problems for decades into the future. A TMDL for Charlotte Harbor that sets a protective nutrient loading level will not be met even if the planned mining does not take place. The average P loading from the Peace River to Charlotte Harbor is approximately 500 metric tons/ year. This is an extremely large nutrient source for estuarine algae and cyanobacteria. This loading is not natural, but is a result of present and past phosphate mining activities in the Peace and its watershed. Increased mining will increase this loading rate. Phosphorus concentrations in the freshwater Peace average much higher than the 90th percentile (740 }AWL) of Florida waters (see figure below) and are greater than concentrations in US rivers with heavily fertilized watersheds. Iron is another plant nutrient that is discharged in | The water quality characteristics associated with mining and reclamation including TMDLs and phosphorus loading are described in Chapter 4 and Appendix D of the Final AEIS |

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| | | | excessive amounts from Peace River to Charlotte Harbor. These nutrients are a source of nutrients supporting excessive phytoplankton and macroalgae blooms in Charlotte Harbor and adjacent waters. Cyanobacteria that fix nitrogen such as Lyngbya majuscula, which can overgrow and shade seagrasses, and Trichodesmium erythraeum, which can feed red tide (Karenia brevis) blooms, are two species that benefit significantly from these nutrients. The 500 metric tons of phosphorus can produce, without recycling, 2,000,000 tons of macroalgae (wet weight) which may end up on our beaches. The effect of nutrients on algal growth is a direct effect and the effect of increased nutrient loadings on Charlotte Harbor and the Gulf of Mexico should be included in the analysis of effects of the phosphate mining expansion. | |
| 000000397-8 | US Environmental Protection Agency, William L Cox | Federal Agency | 5. DAEIS Use of GIS for Ecological Analysis As required by NEPA, the DAEIS analyzed ecologic resources that were considered "most likely to be affected" by the proposed mines or their alternatives. These resources included "herbaceous and forested wetlands, intermittent and perennial streams, and associated aquatic resource habitats." Analysis of potential direct mining impacts to these resources appropriately utilized the latest geographic information system (GIS)-based tools developed by the State of Florida that provided a means for estimating the relative quality of wildlife habitats. These were the Integrated Wildlife Habitat Ranking System "IWHRS," developed by the Florida Fish and Wildlife Conservation Commission (FFWCC), and the Critical Lands and Waters Identification Project "CLIP" system, developed through a collaborative effort between the Florida Natural Areas Inventory (FNAI), the University of Florida, and the FFWCC. These GIS systems allow for rapid assessment of the ecological quality of a given parcel of land within the State of Florida, and this ecological screening of potential for impacts on natural resources was conducted for all of the 24 alternatives (not used for the "no action"). EPA notes that the IWHRS ranks wildlife habitat value on a scale from 0 to 10, while the CLIP looks at terrestrial and waters issues. The IWHRS uses a wide variety of land cover and wildlife data, while CLIP follows a combined approach of layering and assessing items. EPA also notes that the land use coverage used to support this AEIS was the 2009 SWFWMD "Florida | Additional discussion of the differences between the IWHRS and CLIP has been added to the Final AEIS. |

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| | | | Land Use, Cover, and Forms Classification System." EPA Recommendation: EPA concurs with the use of the IWHRS and CLIP tools, but recognizes that they are composed of different data layers and use different datasets, and therefore could produce a substantially different outcomes for a given site. EPA recommends that the FAEIS include additional information on the relative merits/differences of both systems, such as how the Aggregated CLIP reflects a greater variety of ecological resources than the IWHRS, and how the Aggregated CLIP scores give more weight to the presence of surface waters, floodplains, and wetlands than does the IWHRS. EPA concurs with using both tools to provide "additional perspective for the AEIS review in its evaluation of the alternatives." | |
| 000000430-2 | USGS, Arturo E Torres | Federal Agency | The following examples are a few of the many statements that are not based on logical arguments. p. 4-191 Table 4-66 Substantive increased areal coverage of wetland cover categories in the year 2009 for both the Myakka and Peace River watersheds when compared with the corresponding estimates for 1990 and 1999 are not readily explained, but it is possible that at least some of this increase may be associated with more intensive reclamation or habitat creation as mitigation for wetland losses within the subject basins. p. 4-204 Stream habitat loss also will be temporary and located in the same vicinity as other habitat loss. However, the post-reclamation landscape will include more miles of created natural first and second order streams than currently exist, thereby mitigating, in part, a significant historical impact identified in the PRCIS. p. 4-205 Based on this, the cumulative effects of the four proposed mines, the two reasonably foreseeable mines, the alternatives, and other actions on aquatic resources and upland habitat are expected to be insignificant. | The cited statements reflect 1) increase in wetland coverage in the region over the past decade as a result of increased reclamation/mitigation, 2) more proposed stream reclamation/mitigation than impacted by mining (per permit applications of currently proposed mines), and 3) no resulting cumulative effects on resources based on mitigation/reclamation. |
| 000000430-11 | USGS, Arturo E Torres | Federal Agency | Misleading language and descriptive statistics are used to quantify wetland impacts in the Executive Summary and elsewhere in the report. Instead of 16 to 21 percent, from 50 to 80 percent of the original wetland acreage on mined properties will be impacted. ES.6 ENVIRONMENTAL CONSEQUENCES, p 15 lines 4-7: Although no mine plans have been submitted by any applicant for these alternatives, | The relevant text in the Final AEIS has been revised to note the percent of mine site impacts that is separate from the percent of wetlands impacts for each mine. |

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| | | | current mining approaches for planning, construction, and reclamation of mine sites can be assumed to be similar to what is proposed for percentage of impacts for the four proposed alternatives which range from 16 to 21 percent of wetland impacts. p15, lines 8-9: The potential acreages of impact would be on the order of 16 to 21 percent of the indicated figures. p. 16, lines 8-9: As for the foreseeable future alternatives, the estimated acreages of potential impact would range between 16 and 21 percent of the indicated figures. The phrases above taken from the report are misleading with respect to these two numbers. However, it would be correct to say that, based on estimates from the 4 proposed mines, from 16 to 21 percent of the total mine property will eventually become impacted wetlands. How these percentages are calculated is not shown, but they can be derived using 2 columns in Table ES-2, page 15: Acres of Wetlands Proposed to be Affected and Total Area of the Tract. The 50 to 80 percent wetland impacts can be calculated as follows. Before mining begins, around 25 to 35 percent of the Total Area of the Tract is unaffected wetlands (Table ES-3: divide Total Wetland (acres) by Total Site (acres). This is consistent with Statewide estimates; freshwater wetlands constitute 26 percent of the land cover in Florida (Haag and Lee, 2011)). After mining, 16 to 21% of the land area of the tract becomes impacted wetland. Therefore, from the perspective of impacts to wetlands, 46 to 84 % of the wetlands on mine tracts are impacted - so roughly 50 to 80 percent of the wetlands on a given mine tract will be impacted by mining. | |
| 000000430-14 | USGS, Arturo E Torres | Federal Agency | The DAEIS does not address the cumulative impacts of the proposed mines on wetland hydrologic connectivity, or the intermittent streamflows between headwater wetlands and intermittent streams that convey flow to larger tributaries. On p. 3-108 the AEIS states, Phosphate mine projects within the Central Florida Phosphate District (CFPD) would affect wetlands and surface water systems within the footprint of the proposed mines unless these natural systems are included in the no mining areas addressed during mine plan development. Although this is correct, it is a simplification, because in addition the wetlands and streams down gradient of the footprint of the proposed mines will also be affected, | Chapter 4 of the Final AEIS describes how the impacts of the four projects on surface waters was considered. |

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| | | | and this is never stated in the DAEIS. Headwater wetlands and first-order streams connect uplands and riparian systems with river systems longitudinally, laterally, and vertically. Cumulative alteration of headwater wetlands and streams affects river function at larger scales, affecting downstream hydrology, water quality, biota, and geomorphic processes. The potential for those impacts should be documented with baseline data in order to quantify this potential loss, and also to substantiate restoration after reclamation. | |
| 000000542-35 | Percy Angelo | Private Citizen | The DAEIS has different estimates, in fact sometimes dramatically different estimates, for the amount of wetlands and streams to be impacted by the four proposed mines. Compare ES 5 to 1-16 to 19 to 4-30. The differences amount to over 2000 acres of wetlands and almost 200,000 linear feet (31 miles) of streams. We have no way of knowing what the correct numbers are. In our discussions we give our source within the DAEIS wherever possible, but we urge that the discrepancies be corrected. According to 4-174, 204,000 acres in the Peace watershed are already mined or permitted, 35,000 in the Little Manatee, 3700 in the Manatee and 2900 in the Myakka. Elsewhere the numbers seem to be different. | The Final AEIS has been updated and as appropriate corrections made to provide consistencies in acres of wetlands or linear feet of streams that may be affected. Final determinations upon actual impacts to these resources will be made on a project-by-project basis as part of individual permit discussions and reviews by the USACE. |
| 000000542-46 | Percy Angelo | Private Citizen | Brian Winchester, a wetland expert who provided scoping comments on behalf of ManaSota¬88 and 3PR, comments which were ignored and not even included in the DAEIS appendix, noted specifically that the CFPD artificially truncates the western boundaries of all affected watersheds that have estuarine outflows, and thus excludes all downstream estuarine impacts. His comments are provided, again, as Ex. 3 to this submission. Winchester urged evaluation of downstream estuarine impacts, including the timing and volume of freshwater in-flows and changes in natural salinity regimes, other water quality effects such as turbidity, color and nutrients and effects on fish habitat, commercial fisheries and threatened and endangered species such as the small tooth sawfish and Gulf sturgeon. As discussed further in connection with groundwater flow, and water quality (demonstration of impairment of ThirtyMile Creek, a tributary of the North Prong of the Alafia), there is real evidence of impacts which should have been considered and werent because of the artificial geographic limitation of the CFPD. | The CFPD was not used as a boundary in the AEIS except in the consideration of direct effects of mining and the identification of offsite alternatives, which are assumed to be limited to the CFPD. As described in Chapter 4, the scope of analysis for impacts can extend beyond the CFPD boundary. For example, the analysis of surface water flow impacts in Chapter 4 extends all the way down to Charlotte Harbor. Evaluations of indirect or cumulative effects were extended beyond the boundaries to the extent necessary based on analyses that indicated impacts could occur beyond the CFPD including estuaries and federally protected species. Coordination with the NMFS regarding EFH has been conducted and appropriate follow-on assessments if required will be completed. |

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| 000000542-50 | Percy Angelo | Private Citizen | The decision to limit the AEIS scope to 2060 improperly ignores the additional decades of impact to groundwater, surface water, wetlands, local climate and all of the additional environmental insults discussed below. D. AEIS Improperly Compares Proposed Mining to Past Mining Excesses. Time and again within the DAEIS the document compares the impacts of proposed mines to past mining and concludes that it will be not much worse, or even better than the past, and appears to conclude that that is good enough. That is improper. | The timeline of 2060 selected for impact analysis in the AEIS is considered to be appropriate in terms of the period of action/impact that is "foreseeable" in accordance with NEPA guidelines. The Final AEIS does not conclude that the impacts of future mining are "good enough" but rather assesses whether the impacts are significant in accordance with NEPA. |
| 000000542-86 | Percy Angelo | Private Citizen | Surprisingly, the DAEIS never discloses the total loss of wetlands or stream lengths to mining, past and present and future. (The data at ES 5, 1-16 to 19, 4-30 and 4-192 are incomplete and internally inconsistent. ). This is an obvious predicate to any discussion of the impacts of over 50,000 acres of further mining disruption yet it is missing in the DAEIS document. Nor is there any discussion of the total amount and period of time for wetland loss due to the new proposed mines and the impact of that temporal loss. While the graph at 4¬ 191, Ex. 1, shows us how significant the issue is, there is no discussion which identifies wetlands lost in the past or wetlands to be lost for decades under future mines and what that total cumulative impact will be. | The wetland impacts that would be cumulatively incurred by the four currently proposed mines are discussed in the Final AEIS. The temporal loss and associated mitigation that would be provided to compensate the losses are also addressed. The data discrepancies on wetland impact quantities in the Draft AEIS have been corrected in the Final AEIS. |
| 000000542-92 | Percy Angelo | Private Citizen | Winchester notes, as have others, that two wetland evaluation methodologies (WRAP and UNAM) are commonly used and that now that CMR is available it is past time to determine whether either or both or neither system actually meets CMR standards. This has not been done, though it should have been an important part of the DAEIS analysis. | The Compensatory Mitigation Rule states that the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions, and that where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. The CMR does not set "standards" for functional assessments. The USACE considers both WRAP and UMAM to be appropriate functional assessment methods in Florida. |
| 000000542-104 | Percy Angelo | Private Citizen | I. The DAEIS Gives No Consideration to the Effects of Wetland Loss or Land Use Changes on Local Climate and Rainfall. The AEIS gives no consideration to the climatic effects of wetland loss or the presence of vast areas of land stripped of vegetation. (The discussion at 4-165 of regional climate impacts which might affect sea-level rise does not address this issue). This is not a fanciful concern. The USEPA in its comments on the South Fort Meade Hardee County permit | This issue of impacts of land use changes related to effects on climate has been addressed in the cumulative effects section of Land Use in Chapter 4 of the Final AEIS. |

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| | | | called for consideration of the heat island effect of such areas. USEPAs concern is borne out by studies which show that changes in land cover and loss of wetlands can and do affect local weather. We are attaching as Ex.16 a study by Roger Pielke Sr. and co-authors Curtis Marshall of NOAA and Louis Steyaert of NASA published in the 2004 Monthly Weather Review of the American Meteorological Society comparing regional atmospheric modeling studies of Florida and contrasting the impacts in light of local land cover changes in 1900 versus 1993. The change in land cover from development, wetland draining and clearing resulted in significant alterations in July-August weather with marked changes in the spatial distribution of convective rainfall totals over the peninsula. There was an overall decrease in the 2 month precipitation total (10 to 12% less) and an increase in daytime temperatures, and lowering of nighttime minimums. The effect was identified in all three simulated periods. Changing land use led to changing local weather; and the changes resulted in decreases in rainfall and increases in temperature in the summer. The model results were consistent with observational data showing decreasing regional precipitation (12%) and increasing maximum temperatures over the 20th century. Very similar effects on a local scale are reported by Cynthia Barnett in her book, Mirage, reporting a study by James OBrien, state climatologist, working at Florida State University Center for Ocean-Atmospheric Prediction Studies. Based on computer studies OBrien observes that urban areas that have been drained for agriculture or development show steady rainfall deficits, a heat island effect. Deficits for Brooksville and other areas north of Tampa begin in the late 70s and early 80s when they were drained for ranchettes. Ocala shows deficits beginning in the early 90s when the thoroughbred horse farms began to be plowed under for subdivision. In contrast, other more rural areas show surpluses and O'Brien concludes that the surplus pattern would have been observed statewide absent land use changes. Ex. 13. The DAEIS recognizes that land clearing along surface waters may affect aquatic resources through temperature changes, 4-178, but never acknowledges the larger implications of these temperature effects. Irrespective of any minimal impact from the AMO, | |

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| | | | these studies by NASA, NOAA and state climatology scientists demonstrate local rainfall changes correspond to the massive changes in land cover experienced as Florida has been developed. The potential effect on the local Florida climate, with the environmental and economic consequences which must result, has been entirely ignored by the DAEIS. This is scientifically insupportable. A large-scale removal of land cover, some of it permanent, and elimination of natural wetland and waterway features for decades at a time has an impact which should be studied and addressed. | |
| 000000542-113 | Percy Angelo | Private Citizen | -The background discussion reveals loss of fish species and habitat in the Peace watershed but the Consequences discussion ignores the issue-The background discussion at 3-102 to 103 identifies studies showing decline of fish species and attributing the decline to changes including loss of first and second order streams, eutrophication of lakes, loss of base flow to streams, spread of exotics, and decreases in surface flow. The comments of Thomas Fraser, above, and Ex. 12, confirm this potential impact. All of these changes are likely results of mining, yet the Consequences section, again, declines to address the problem. | The referenced discussion is from the finding of the Peace River Cumulative Impact Study (PRCIS) (PBS&J, 2007) that the number of fish species within the Peace River Watershed has declined over time due to alteration or elimination of habitat. According to the PRCIS, these fish habitat impacts have occurred over a long period of time as a result of agriculture, urban development, and mining. Chapter 5 points out that current stream restoration has very specific and stringent success criteria that emphasizes offsetting the loss of ecological functions, including the loss of aquatic biota such as fish and macroinvertebrates. |
| 000000542-158 | Percy Angelo | Private Citizen | The analysis reveals other flaws. The so-called alternatives are eliminated if they contain highly valuable environmental parcels. But there is no comparable point at which the four mines under evaluation can be eliminated for the same reason. Three of those mines directly impact Horse Creek, one of the few remaining undamaged tributaries of the Peace River and widely acknowledged to be an environmental gem. Despite the fact that this is an environmental impact statement, there is no point at which the drafters recognize, holy cow, were about to allow three mines along Horse Creek.' Not only is there a failure to acknowledge these cumulative impacts, there is also no point at which the environmental significance of this stream as a whole is recognized and examined. The alternative review method chosen is a pretense, not a true examination of alternatives. | NEPA requires that each of the proposed mine projects must be carried forward for analysis. The cumulative impacts discussion has been expended in the Final AEIS to include additional analyses beyond that provided in the draft. Horse Creek and its related watershed are captured as part of this analysis. |
| 000000542-190 | Percy Angelo | Private Citizen | The AEIS analysis fails to consider the contribution of small streams to the watershed as a whole- Ex. 12, Comments of Thomas Fraser on DAEIS, June 10, 2012. | The contribution of small streams to the watershed are discussed in Chapter 3 of the Final AEIS. |

## Ecological Resources

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| 000000542-194 | Percy Angelo | Private Citizen | I. The DAEIS Gives No Consideration to the Effects of Wetland Loss or Land Use Changes on Local Climate and Rainfall. p. 24 Ex. 16, Marshall, Pielke, Steyaert and Willard, The Impact of Anthropogenic Land-Cover Change on the Florida Peninsula Sea Breezes and Warm Season Sensible Weather, Monthly Weather Review of the American Meteorological Society, Vol. 132, 2004. J. The Cumulative Impacts of CFPD Mining on Water Flows Are Never Addressed. p. 25 K. There Is No Discussion of the Impact of These Reduced or Impacted Water Flows on the Charlotte Harbor Estuary. p. 25 | The referenced paper relates these changes to coastal urbanization and transformation of land uses in Florida to agriculture, neither of which are relevant to the AEIS. There is no reference to mining land use changes relative to anthropogenic effects although that may be implied. The Final AEIS has included additional analyses of groundwater and surface water flows and concludes that there are no substantive impacts on flows affecting the CHNEP. |
| 000000550-14 | POW & LBC, James Cooper | Environmental Organization | This DEIS MUST be expanded ASAP to evaluate the Total Impacts of all SIX (6) known future hosphate Mines in One EIS: About 92,000 acres - as a group) on the Region. These 6 new phosphate mines are: ? (1) ONA (Mosaic) ? (2) WINGATE EAST (Mosaic) ? (3) DESOTO (Mosaic) ? (4) South Pasture Extension (CFI) ? (5) PIONEER (Mosaic) ? (6) Keys-Pine Level Manatee (Mosaic) Per EPA May 1999 document (EPA 315-R-99-002): Consideration of Cumulative Impacts in EPA Review of NEPA Documents is not optional: It is absolutely essential & mandatory! Quote: The combined, incremental effects of human activity, referred to as cumulative impacts, pose a serious threat to the environment. While they may be insignificant by themselves, cumulative impacts accumulate over time, from one or more sources. The DAEIS says mining takes 50 years and re-claiming at least 20 years (See Economic Analysis charts) . If you add in the 2 Future Mines Omitted (Pioneer & Pine Level/keys) just these 2 additional mines adds another 40,000 acres to the magnitude & scope of this AREA EIS & takes the timeline out another 10-20 years, so this ADAEIS presently: Totally FLAWED & Not Acceptable. The over time element obviously applies. EPA Must be Consulted and Provide Guidance to the Corps on this DAEIS: Charlotte Harbor is federally protected, funded and monitored by the EPA as a National Estuary Program. What is most important is that at this time it is only one of two in the entire 20 plus NEP programs which is NOT yet in decline. ECOMOMIC REALITY: It far less costly to maintain the current health of the Harbor than to attempt to bring it back due to identifiable & preventable upstream CFPD phosphate mining impacts which can be avoided (or compensatorily mitigated) in a proper NEPA based DAEIS scientific cumulative impacts analysis & | The Pioneer and Keys-Pine Level tracts are addressed as foreseeable future mines by the Final AEIS; however, the same level of assessment cannot be conducted for these sites because no mine plans have been prepared for them. The potential for these sites to be mined in the future exits, however, it is not known if, when, or how they would be mined. |

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| | | | proper avoidance of ARNI critical resources. The CHNEP area includes the entire 4,400 mile shoreline of the Charlotte Harbor watershed area. To remain healthy and productive, it requires a regular (constant 4 season based) supply of adequate quantities of freshwater flows coming downstream from the Peace River, Horse Creek & Myakka Rivers which all are directly impacted by the 6 mines above as they originate in the CFPD. The downstream flows must be continuous during all 4 seasons in order to ensure the required salinity levels in the many fish nursery areas which are located there to remain healthy & sustainable. | |
| 000000550-17 | POW & LBC, James Cooper | Environmental Organization | EPA - ON WETLANDS analysis: Federal assessment & mitigation for the LOSS of Wetlands often focuses primarily on the acreage affected, (This appears to be the DAEIS only approach), rather than considering the function of the wetland within the broader ecosystem. In such case, the impact of the wetland might not be deemed significant, if the wetland had no immediate wildlife values or other notable characteristics. However, by expanding the assessment to consider the full array of wetland functions & their importance, with a broader context, cumulative impacts could be more fully assessed. Here is the EPA on Wetlands-Key Functions: Important functions to focus on should include the wetlands: (1) as a nursery for recreationally and or commercially valuable aquatic species; (2) its ability to not reduce essential EPA ARNI vital downstream flows & likewise minimize downstream flooding; and (3) its ability to improve water quality. | Chapter 5 of the Final AEIS discusses that all proposed phosphate mines are required under the Compensatory Mitigation Rule to offset impacted wetland acreage, offset lost wetland function, and provide in-kind wetland compensation for unavoidable impacts. The Final AEIS also explains how wetland functions are assessed through UMAM/WRAP functional analyses. Under the mitigation framework developed for the Final AEIS, permit reviewers will assess the functionality of wetlands using UMAM/WRAP and by other methods during their impact avoidance evaluations and to determine the compensatory mitigation that is necessary to offset lost functions for impacts that are unavoidable. |
| 000000550-35 | POW & LBC, James Cooper | Environmental Organization | There exist adequate NEPA and EPA environmental rules written to enable the ACOE to professionally and equitably deal with and prepare a proper AREA WIDE Environmental Impact Analysis for this next major phase (next 50 to 70 years) of intense Phosphate Mining in 92,000 cares in the Southern CFPD our Southwest Florida 7-county impacted region. A properly prepared DAEIS will reveal how mining opportunities can be best be accomplished in the South Bone Valley area and at the same time strike a reasonable balance and fully protect the environment. However, it seems clear (at this time based upon this FLAWED DAEIS) that the two industry proponents (Mosaic and CFI) apparently will not step up to | The Final AEIS has been prepared based on a thorough examination of comments on the Draft AEIS received from the public, regulatory agencies, NGOs, and other stakeholders. USACE coordinated with several cooperating agencies including USEPA, USFWS, NMFS, and FDEP on the comments received and the ways in which to revise and improve the AEIS. The Final AEIS includes substantial revisions and new data/approaches including new alternatives analyses, new hydrologic modeling, development of new impact avoidance/minimization approaches, and new cumulative impact analyses to address the issues raised during review of the Draft AEIS. . |

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| | | | meet the minimum requirements of NEPA rules. Likewise, the ACOE has not stepped up to properly fulfill their role as Lead Federal Agency in the EIS process. This Lead role for the ACE demands: (1)They immediately begin curing their many data omissions & fix many identified DAEIS flaws, & then take whatever time is needed to (2) Prepare an urgently needed new:SupplementalDraft CFPD Area-Wide EIS (SDAEIS) which follows all NEPA rules, includes all 6 of the known Future Mines in the CFPD, states each and all of the identified Cumulative Impacts for each Mine, by each Watershed, states any potential array of negative impacts to each CFPD Land ecosystem area and each aquatics system and habitat area to attain the best protections of ARNI streams & wetlands and Charlotte Harbor. Then the ACE must also provide in the new SDAEIS a new list of reasonable (science based) Alternative Options and a new Preferred Alternative that avoids all significant local and regional environmental degradation to land and aquatic resources and meets most of the major objectives of the proponents projects. | |
| **Individual Comments that Require Acknowledgment Only** | | | | |
| 000000008-1 | Protect Our Watersheds, Helen Jelks King | Environmental Organization | We want to ensure the best possible protections for our water, our environmental systems, the health of Charlotte Harbor and its fisheries during and after mining. | Comment acknowledged. |
| 000000013-3 | Norma and John Killebrew | Private Citizen | Further, Mosaic was allowed by FDEP to relocate wetlands from above our property to below our property. If wetlands do what specialist say, that is foster water and springs, then obviously relocating wetlands affect the river. | Comment acknowledged. |
| 000000199-16 | James Cooper | Private Citizen | I'm also speaking as president of the environmental group called; Protect our Watershed, which is also very concerned about protecting the gulf and its durability of Charlotte Harbor, Myakka River, and Peace River during the next 60 years of phosphate mining. So, we're talking about a long period of time in the future. I won't be here but my kids and grand kids will be. So I have several comments for you. | Comment acknowledged. |
| 000000274-1 | Sierra Club, Patsy Rains | Private Citizen | Chapter 4 - Environmental ConsequencesIt does not take a Rhodes Scholar to know this is horrible for the environment. OK so it creates jobs for a short period of time. We know it is impossible to replenish the earth to its original self once this Phosphate Mining takes place. You must stop this horrible | Comment acknowledged. |

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| | | | process now. While it may be making a lot of people wealthy (what is new) raping this wonderful planet is not worth what a few people are getting monenatrily from this process. Thank you for giving me this opportunity. Please do not go forward with this Phosphate Mining. | |
| 000000280-47 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.12.2.2 Ecosystem Conditions, Stresses and Responses P. 4-192, Table 4-66 This table shows a 59,000 acre (15%) increase in wetlands in the Little Manatee, Manatee, Myakka, and Peace Rivers basins, including a 22% increase in the Peace River basin, between 1999 and 2009. While these acreages may be valid they are counter intuitive and should be investigated prior to publishing. | Comment acknowledged. |
| 000000357-1 | ET Mizuno | Private Citizen | I had the opportunity to view what phosphate mining does to Florida and how the companies mitigate the effects of drag line mining. The companies replace vegetation but cannot restore the ecology nor the impact to wildlife. We use phosphate fertilizers for our orchids but would gladly forgo orchids to obviate the effects of phosphate mining in our state. The effects of phosphates in our canals is clearly visible and detrimental. The work of the ACE is so important to the vitality of our country and they should carefully consider the deleterious effects of drag line mining on our natural resources in Florida. | Comment acknowledged. |
| 000000359-2 | Florida Department of Agriculture and Consumer Services, Adam Putnam | State Agency | As we continue to tap our states phosphate reserves, mining must be conducted responsibly. Regulatory agencies play an important role, on behalf of the public, to ensure that impacts to our vital ground and surface water resources are minimized during the mining process. | Comment acknowledged. |
| 000000377-1 | Dr. Margaret M Niklas, BS Biology, DVM | Private Citizen | My husband and I were residents of Sarasota County for more than thirty years and now reside in Desoto County. We are particularly concerned about the proposed Desoto mine Every year scientists are learning more and more about the fragility of the environment, specifically the delicate balance between the natural resources, such as water, and the flora and fauna sustained by these resources. The wetland areas of Florida are particularly susceptible to environmental impact. After learning about the phosphate mining process , we have grave concerns about the profound effects that would result from | Comment acknowledged. |

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| | | | the opening of a mine in this area of Florida | |
| 000000389-1 | Helen Comfort | Private Citizen | Wetlands should be highly regarded and appreciated! | Comment acknowledged. |
| 000000389-5 | Helen Comfort | Private Citizen | I stated that water integrity and natural systems are a priority. | Comment acknowledged. |
| 000000390-4 | Just the Facts | Non-profit Organization | Florida's fragile wetlands, water resources, and habitat could and should be protected from this environmental destruction which is permanent not temporary. | Comment acknowledged. |
| 000000542-44 | Percy Angelo | Private Citizen | It appears that the same total loss will occur for wetlands and for habitat, during this moonscape period. And, as discussed in connection with local climate below, meteorological studies have shown a loss of localized rainfall and increase in temperatures as a result of loss of ground cover. One of the years studied was 1993, a year in which mined and reclaimed land was at 38,000 acres, close to its highest, Ex. 1, and also a year occurring in the midst of a substantial drop in Peace River and Alafia flows, Ex. 2. The DAEIS devotes much time to talking about how things will not be as bad as they were in the past, but in fact they will be just about as bad. Compared to today there will be almost twice the damage in terms of wetlands lost, flows lost, habitat lost, and yet there is no discussion of the issue. How can that not be worthy of mention, let alone analysis! | Comment acknowledged. |
| 000000545-1 | City of Punta Gorda, Joan F LeBeau | Municipal Government | The City of Punta Gorda is situated on the Peace River which is included in the Charlotte Harbor National Estuary Program and approximately one half of the Citys proposed waterfront area lies within the Aquatic Preserve. The City has traditionally benefitted economically from the Peace River and Charlotte Harbor and the natural resource is a key component and economic engine for the Citys future plans. | Comment acknowledged. |
| 000000545-2 | City of Punta Gorda, Joan F LeBeau | Municipal Government | Pursuant to the Citys Comprehensive Plan, City Staff supports the Charlotte Harbor National Estuary Programs comments on the current phosphate mining applications being reviewed in Central Florida based on Policy 2.1.2.7 of the Conservation and Coastal Management Element of the Citys Comprehensive Plan states: Punta Gorda will support the recommendations of the Charlotte Harbor National Estuary Programs Comprehensive Conservation and Management Plan. | Comment acknowledged. |

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| 000000547-4 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | 4.49: Maintain and improve native plant communities and viable wildlife habitats, determined to be regionally-significant natural resources in addition to the Map of Regionally-Significant Natural Resources, including those native habitats and plant communities that tend to be least in abundance and most productive or unique. 4.57: Ensure that land use decisions are consistent with federal- and state-listed species protection and recovery plans, and adopted habitat management guidelines. | Comment acknowledged. |
| 000000547-8 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | .68: Encourage continued development and implementation of the integrated habitat plan. 4.69: Require within mining plans the preservation of sufficient contiguous upland areas adjacent to the 25-year flood plain for the purpose of establishing/maintaining wildlife corridors, greenways, buffering the floodplain, and promoting healthy wetland system values and functions. Protect these areas from adverse adjacent mining activity impacts. 4.70: Identify and map prior to any land clearing for mining activities, the habitats of species listed in 39-27.003-.005, F.A.C., and 50 CFR and provide an opportunity for review by the Florida Fish and Wildlife Conservation Commission (FFWCC), the U.S. Fish and Wildlife Service and the local government. Also, a habitat protection plan based on the identified habitat areas should be reviewed by FFWCC, the U.S. Fish and Wildlife Service and the local government. The plan should be in effect throughout the mining and reclamation period. | Comment acknowledged. |
| 000000547-12 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Issues of Concern: Natural Resources of Regional Significance. The DAEIS states that NRRS would be adversely impacted by proposed or potential mining activities. The attached map identifies those resources which would be affected. Council policies provide the preferred manner for mining and other development to protect and restore regionally-significant natural resources. It is not possible to calculate the acres of Natural Resources of Regional Significance which occur on the Wingate East Mine Extension site. Analyses of the effects of imposing 1,500-, 3,000- and 6,000-foot buffer zones around the mine sites to protect high quality natural habitat and wetlands, perennial streams and all streams were conducted for each proposed mine site. At the present time buffer widths are not set by rule and have rarely exceeded 500 feet | Comment acknowledged. |

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| | | | in width. For the Wingate East Mine Extension in Manatee County, the results were as follows: Wingate East Mine Extension - Net Mineable Lands (acres) and Tons of Phosphate Rock Not Mined if Buffers Zones are Delineated for Environmental Protection (Mine proposal = 3,367 acres) Category 1,500-foot Buffer 3,000-foot Buffer 6,000-foot Buffer High Quality Natural Habitat (CLIP Priority 1&2) 291 acres 7 acres 0 acres 36,656 tons 40,040 tons 40,124 tons High Value Wetlands 3,162 acres 3,032 acres 3,030 acres N/A N/A N/A Perennial Streams 2,121 acres 974 acres 200 acres 14,848 tons 28,516 tons 37,741 tons Perennial and Intermittent Streams 1,387 acres 261 acres 0 acres 23,617 tons N/A 40,124 tons A similar analysis was not conducted for the reasonably foreseeable potential mining sites. | |
| 000000547-13 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Comparison of fauna (wildlife of all types) on unmined and mined/reclaimed sites generally showed a lower diversity of species on the mined sites. Due to large-scale, watershed-based reclamation planning, contiguous wildlife habitat is being reestablished across the landscape, and evolving techniques are resulting in more natural habitats. For the Wingate East Mine Extension, the applicant proposes to provide 18% more wetland acres and 3% more stream length, post-reclamation, than exist on the site. The key is long-term protection of the recreated wildlife habitat and corridors. About 30% of the land within the four proposed mines has been designated by the state for potential conservation as part of the Integrated Habitat Network. Under the four mining proposals, some percentage of the mining areas are proposed for reclamation into more natural habitats and turned over to the state under conservation agreements. No estimates are provided for the two reasonably foreseeable mine sites. Urbanization and agricultural practices result in fragmentation or permanent habitat loss. The DAEIS states that, due to existing regulatory and management agency oversight, ...the cumulative effects of the four proposed mines, the two reasonably foreseeable mines, the alternatives, and other actions on aquatic resources and upland habitat are expected to be insignificant. | Comment acknowledged. |

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| **Summary Comments** | | | | |
| **SA-1** | | | **Commenters suggested that the modeling was limited in the area covered and should be extended to evaluate potential impacts beyond the CFPD to include effects to water resources, water quality, and important species in Charlotte County and other counties and Charlotte Harbor. One commenter also noted that the Charlotte Harbor National Estuary Program activities should be included as part of the evaluation in the AEIS to include attachment of relevant documents. This commenter also expressed concern that impacts for the proposed actions would have negative effects on recreational uses and natural resource economics in general and in the Charlotte Harbor area.** | **The study area for the AEIS does extend beyond the boundaries of the CFPD, taking in adjacent areas such as Charlotte County, and downstream areas such as Charlotte Harbor. For example, Chapter 4 describes the potential direct, indirect, and cumulative effects of phosphate mining on Charlotte Harbor as related to surface water flow. The geographic scopes of other analyses are also described in Chapter 4. These analyses took into account input from many stakeholders, including the Charlotte Harbor National Estuary Program.** |
| 000000275-7 | Helen King | Private Citizen | There is no discussion of the impact of reduced water flows on the Charlotte Harbor Estuary of existing and future mines. The AEIS only looks at single mine drawdown of water and single number flow loss for the major rivers. The entire CFPD should be looked at cumulatively and beyond into downstream waters. | Included in summary response above. |
| 000000277-8 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | The economic analysis was expanded to include the Port of Tampa and the potential impacts of mining and the "no action" alternative would have on the area but Charlotte County was not included in the analysis. Why is there no mention of the potential negative impacts to the county? As mentioned before the harbor is a major revenue stream for the county. Recent analysis show expenditures by users of the artificial reef program to be nearly $28 million dollars and more than 300 jobs within the county. Any alteration in salinity, dissolved solids or turbidity could potentially affect the industry associated with the harbor. Estuaries, like Charlotte Harbor, are particularly sensitive because much of the marine life found there are at the most vulnerable stages of development. The critically endangered small toothed sawfish and other species found in Charlotte Harbor require close scrutiny of any action with potential to affect environmental parameters in the habitat. | Included in summary response above. |
| 000000351-4 | Debra L Highsmith | Private Citizen | At the scoping meetings, many organizations and individuals begged the Corps to include Charlotte Harbor, its estuaries, and shoreline cities and counties. I am deeply disappointed that the boundaries of the Central Phosphate Mining District | Included in summary response above. |

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| | | | are so narrow as to not consider downstream effects. The most direct effect of phosphate strip mining is the lack of fresh water coming down the tributaries of the Peace and Myakka Rivers, especially in the dry season. Dry season changes effect estuary production as the mixing zone moves up river into narrower, less vegetation-rich reaches. Additionally, salt water intrudes into the intake pipes of the Peace River Manasota Water Supply Authority affecting the public water supply. | |
| 000000550-29 | POW & LBC, James Cooper | Environmental Organization | The CHNEP Provide an Analysis of the present health of Charlotte Harbor and provide a list of: Key Environmental Health Indicators& best data bases to use. The Policy Committee of the Charlotte Harbor NEP, is constantly working to update and improve the protection of the health of Charlotte Harbor. CHNEP should be included in a Technical Advisory Group to the DAEIS team (along with UEPA, USGS, FF&W, NMFS) to provide a Charlotte Harbor Heath Environmental Health Indicators List with an end goal of constantly striving to protect the health and sustainability of all protected and vital fish, their nursery areas and plant ecosystems. The list will most certainly include: (1) Water Quality, (2) Fish & Wildlife Habitat , & (3) Hydrologic & Salinity Alterations. Their annual State of the Estuary Report should also be included as an attachment to the DAEIS, along with any relevant Harbor based habitat improvement scientific studies over the past 10 years. Likewise, the FF&W Port Charlotte field station based Endangered Sawfish: Federally Funded Juvenile Sawfish Nursery Habitat, Tagging & Tracking study program, focusing the upper Charlotte Harbor area and the Peace River & Myakka River (Being conducted by Dr. Stevens as Cited previously in my Comments) should also be included in the new SDAEIS | Included in summary response above. |
| 000000550-30 | POW & LBC, James Cooper | Environmental Organization | VALUE OF CHARLOTTE HARBOR: The health of Charlotte Harbor is invaluable to this entire region and most importantly - the regional communities survival and its ECONOMY & its JOBS base. The DAEIS has a responsibility to properly analyze via NEPA rules to determine how much upstream Phosphate Mining, at which locations and times, could seriously endanger the regions Horse Creek based water supply & Charlotte Harbors fishery habitat, upon which our economy is based. The protection of Charlotte | Included in summary response above. |

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| | | | Harbor is an EPA priority and is being constantly studied via the CHNEP. The dollar benefit of Charlotte Harbors positive health and sustainability is far more important that mining a few extra bags of phosphate. Just the Annual Income from Tarpon Fishing via outside area residents has been recorded at about $110 million economic impact annually. Yet the tarpon is just one of a dozen popular game fish which currently thrive in the Harbor. This also does not include the vibrant boating, kayaking, ecotourism and photography. Clearly, Sarasota, Charlotte, Polk, Manatee, & Lee Counties can ill afford to lose a healthy Charlotte Harbor and it plethora of positive economic impacts, the commercial growth of recreational tourism dollars and citizen pride. The large impact on the ECONOMIC Value of Cumulative Impacts to a damaged Charlotte Harbor (if the studies reveal any negative impacts) -via the 6 Future Mines Group (when several will operate at the same times in the same watershed) Impact (92,000 acres to be mined in the center of our fragile upstream water flows natural water supply to the Harbor until 2070) must all be included in any NEPA acceptable DAEIS. | |
| **Individual Comments** | | | | |
| 000000267-1 | Charlotte County Board of County Commissioners, Robert J Starr | County Government | Although Charlotte County is not within the Central Florida Phosphate Mining District (CFPD) boundary, the 1978 AEIS apparently recognized the many social, economic and environmental connections between the upper Central (CFPD) and lower parts of the watershed and included Charlotte County Florida. Charlotte County is only 60 miles 'downstream' of the 100 square miles of proposed phosphate strip-mining in western Hardee County and less than 30 miles 'downstream' from the 50 square mile Pine Level mine proposed in neighboring Manatee and DeSoto counties. Accordingly, we believe there is a much greater potential for the proposed mining to adversely impact the 'downstream' resources of Charlotte County and the Harbor than there is for adverse impacts to occur to most of the areas upstream within the proposed AEIS (CFPD) study area. | Included in summary response above. |
| 000000281-18 | Sandra Ripberger | Private Citizen | Table 3-16 The table reports that 70% percent of Manatee County is within the CFPD. This must be inaccurate. Footnotes don't begin until Section 3, page 140 and are | The table has been updated and corrected in the Final AEIS to note that Manatee County comprises 55 percent of the CFPD. Footnotes (or endnotes) are used only as necessary in the |

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| | | | certainly needed for many statements throughout the AEIS. There is a footnote for an email exchange are these valid stats? | Final AEIS. |
| 000000385-8 | Jono Miller | Private Citizen | The boundary of the area of central Florida believed to contain economically recoverable phosphate deposits has changed through time (see one example attached: Map of Phosphate Regions of Florida from Landscape restoration following phosphate mining: 30 years of co-evolution of science, industry and regulation. Mark T. Brown. .Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL 32611, USA. 2005. Note the Southern Phosphate District is smaller than the present CFPD and the pale grey areas that depict secondary reserves.) Since the area in question is a function of the depth of overburden relative to matrix depth and quality, it can be expected to change in the future. Unquestioned acceptance of the CFPD boundary is naive and misleading. As a result of using the CFPD, five of the Myakka polygons are truncated by the boundary of the CFPD, a fact I find both curious and problematic. Either there are mineable phosphate reserves on the west boundaries of these polygons (in which case the reserves can logically be expected to persist to the west), or there are not, in which case the inclusion of these five is suspect due to the high probability of reserves that cannot be profitably mined. | At the time of the Draft AEIS, prospecting data for these polygons were not available. This information has been updated for the Final AEIS and a review of the available data for these polygons includes current knowledge on the potential presence of economically mineable phosphate. |
| 000000396-5 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 3, Page 3-95, Lines 17 through 19 The report references the water quality in the Northern Tampa Bay Water Use Caution Area (NTB WUCA). The NTB WUCA is completely outside the CFPD. SWFWMD publishes a Coastal Groundwater Quality Monitoring Program/Water Use Permit Network Report which would be a good reference source for the discussion pertaining to the water quality in the coastal areas. | Comment acknowledged. |
| 000000430-4 | USGS, Arturo E Torres | Federal Agency | The impacts from the four proposed mines are described in ways that are subjectively scale dependent and therefore not comparable. The spatial frame of reference used to argue cause and effect in the DAEIS is not comparable for all of the issues of concern. In many cases, the frame of reference is too large to be instructive, and diminishes the apparent impact. The cumulative impacts of the four | The geographic scopes for the direct and indirect effect analyses and in the cumulative impact analyses do vary among the various resource categories, because the geographic extent to which mining may affect those resource categories varies. For example, noise effects may be limited to an area around an active mining site, whereas the water quality and surface water hydrology effects may show up well |

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| | | | proposed mines are largest if seen from the context of the mined properties themselves, and smallest if viewed from the frame of reference of the entire CFPD, or the combined areas (or flows) of the Peace and Myakka River basins (see table below- constructed from numbers found throughout the DAEIS and converted to square miles). The DAEIS does not adequately and clearly state what the spatial scale for defining impacts is in the Introduction. The scale for considering impacts for each of the issues of concern should be defined and applied consistently throughout the report. For example, the DAEIS EXECUTIVE SUMMARY states that the predicted cumulative impact of the four proposed mines on Streamflow is a small percentage of the total inflows to Charlotte Harbor Estuary, which has a contributing area of 3,000 square miles. But, is this the preferred scale at which to look for significant impacts from mining? What changes in Streamflow occur in streams on the mined tracts themselves? Effects on stream flows (wetland acreage, stream lengths, habitat acreage, etc.) should be quantified and compared with expected stream flows (wetland acreage, stream lengths, habitat acreage) at a variety of relevant spatial scales.<br><br>**Table 1.**<br>Feature of interest / Area, in square miles / Annual Average Daily Streamflow, in cubic feet per second<br>Southern Water Use Caution Area (SWUCA) 5,100<br>Peace River watershed 2,350<br>Myakka River watershed 550<br>Charlotte Harbor Estuary watershed 3,000<br>Central Florida Phosphate Distri(CFPD) 2,100<br>Total historically and currently mined area in CFPD 500<br>Clay settling areas only 150<br>Horse Creek subbasin to Peace River watershed 218 200<br>Proposed and Future mine tracts in Horse Creek subbasin[1] 112<br>Three Proposed mine tracts in Horse Creek watershed 73<br>Largest capture/runoff area removed from Horse Creek by proposed mines only (yr 2040) 32 -27<br>[1]Historic and current mine areas not included<br>Future mine tract (Pioneer) is 39 sq mi. | downstream of the mine. The geographic scopes for each of the direct and indirect, and cumulative, impact analyses are provided in Chapter 4. |

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| **Individual Comments** | | | | |
| 000000272-33 | Sarasota County, FL, Christine Robinson | County Government | Page 4-29 indicates that approximately 30 percent of the land in the four proposed mine areas (4,691 acres) consists of land designated by the state for potential conservation. To allow for a more complete analysis of the AEIS Alternatives, please clarify whether these areas are wetland, upland or both and provide the approximated acreages. Please also clarify or approximate the wetland and upland percentage(s) of these lands that would be placed under conservation easements post-mining and post-reclamation. | Final decisions on areas to be placed in conservation will be determined as the USACE completes its evaluation of each permit application as part of the Section 404 permit review. Chapter 3 describes the approximate land use in the vicinity of the proposed projects, Chapter 4 describes impacts to those areas, and Chapter 5 describes in more detail the conceptual mitigation framework that includes buffers and setbacks to be considered in each of the permits. |
| 000000272-50 | Sarasota County, FL, Christine Robinson | County Government | While the EPA has banned the use of phosphogypsum in agricultural or construction-related activities, the scope of the ban is not elaborated in the DRAFT AEIS. The DRAFT AEIS should be revised to verify if the EPA has outright banned or conditionally banned returning phosphogypsum back into mined cuts or the blending of phosphogypsum with mined sands and/or clays and then returning blended phosphogypsum into mined cuts. Staff research finds that the EPA ban is based on an assumption that the mined land to which phosphogypsum is returned would one day be developed into residential or commercial uses. | Section 1.3 of the Final AEIS includes a discussion of the management and regulatory responsibilities related to the phosphogypsum stacks, and why the direct and indirect effects asociated with phosphogypsum stacks are outside the scope of the Final AEIS. |
| 000000365-7 | Carol Mahler | Private Citizen | Except for Chapter 2, Alternatives, no mention is made of Myakka River State Park in the entire AEIS, and even then it is not even mentioned by name, but only indicated in the Myakka River Watershed in Figure 2-9. p. 2-20. Both the descriptions of the Myakka River Basin on p. 3-28 and the Myakka River Watershed on p. 4-188 mention the SWFWMDs acquisition of Flatford Swamp but neglect to mention the Myakka River State Park or the many conservation easements and other conservation lands clearly marked, but not named, in Figure 2-7, p. 2-18. Myakka River State Park and "Myakka Island" are integral parts of the Myakka River Watershed and should not be omitted. | As described in Chapter 4 of the Final AEIS, there are no expected major or significant direct, indirect, or cumulative impacts to the Myakka River State Park. In addition, the park is not within the boundaries of the CFPD. |
| 000000369-8 | Manatee County, FL, Ed Hunzeker | County Government | 4. Section 2.2.4.8, Page 2-54, Lines 1-17: FEMA Flood Insurance Maps used are the old version and do not represent the best available information. New maps are not scheduled for adoption until March 2013, but are best available data and should be used. | The use of the FEMA maps was to provide a common basis for comparison among all alternative areas considered as potential future mine sites. These analyses have no effect on the actual application of the maps for site specific flood mapping which would be an evaluation made by each applicant if and when such a site were to be proposed for mining in the future. |

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| 000000369-10 | Manatee County, FL, Ed Hunzeker | County Government | 6. Section 2.2.4.9, Summary, Page 2-68: Lines 4-7 state the combined two tiers of screening removed over 121,628 acres. However, in Manatee County, each mining operation requires the Agriculture (A) Future Land Use Category. While the maps do not define Manatee County's Future Land Use Map, it appears that some of these Alternative Sites are inside or adjacent to the Urban Fringe 3 (UF-3) Future Land Use Category, which is also inside the County's sewer service area. This is an area designated for future suburban development. In order for mining to occur in the UF-3, an amendment would be required to the Future Land Use Map with required public hearings before the Planning Commission and Board of County Commissioners. Therefore, Manatee County staff recommends that Figures 2-17 and 2-18 be revised to remove Alternative Polygon Areas FF and CC-2. Please see additional comments in Chapter 3 concerning Offsite Alternatives. | The revised screening process described in Chapter 2 and Appendix D resulted in the elimination of polygons CC-2 and FF from further consideration. |
| 000000369-18 | Manatee County, FL, Ed Hunzeker | County Government | 6. Section 3.3.7.2, Page 3-131, Line 4: In reference to Figure 3-48, 2020, 2040, and 2060 Regional Urban Growth Projections for South Central Florida by 1000 Friends of Florida, the population distribution assumptions made are totally inconsistent with current policies in Manatee County's Comprehensive Plan and other land use regulations. To get suburban population density with central potable water and sewer service east of the current Future Development Area Boundary, there would have to be massive changes to the Goals, Objectives, and Policy structure to the Comprehensive Plan, to include the Future Land Use Map, Sewer Service Area Maps (based on other engineering studies), and changes to Potable Water and Sewer Service Infrastructure Plant Computer Models, and changes to transportation and traffic computer models, etc. Not insurmountable, but major changes. 7. Manatee County's How Will We Grow? project, while still underway at the time of these comments, projects enough vacant land within the current Future Development Area Boundary to handle future population growth beyond 2035. | Comment acknowledged. |

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| 000000369-25 | Manatee County, FL, Ed Hunzeker | County Government | 3. Section 4.3: The draft AEIS has not sufficiently considered the direct, indirect and cumulative effects of landscape changes, such as clay settling areas (CSAs) and created lakes. Section 1502.16 of the CEQ Regulations for Implementing NEPA indicates that such a permanent feature warrants a discussion of the effects and their significance. CSAs, when reclaimed, remain a modified feature in the watershed. CSAs have limited uses (i.e., no residential development can occur on them). Created lakes may have beneficial effects such as fish and wildlife use and detrimental effects such as changes in regional evaporation rates. A regional evaluation of past, present and reasonably foreseeable incremental impacts to the landscape is necessary to properly assess the net effects. The Ecological Resources evaluation (starting on page 4-28) does not take into account past or current changes to the landscape. | The cumulative impacts section of Chapter 4 of the Final AEIS has been updated to better describe the direct, indirect and cumulative effects of CSAs on the human and natural environment. |
| 000000385-11 | Jono Miller | Private Citizen | Page 3-147 Lines 5-12 there is a foreseeable future mine project, the Pine Level/Keys land area, which has been identified by Mosaic as a likely proposed extension of the Desoto Mine. This foreseeable future mine extension would affect land areas near the uppermost reaches of the Myakkahatchee Creek watershed; review of potential phosphate mining effects on the human environment will need to address the North Port concerns about possible ramifications of reduced water flows that could occur if mining removes watershed areas from the functional runoff capture area contributing flow to this waterway. Again, any potential change in waterway water quality impacting water treatability to achieve potable water standards would also be of concern. Admirable use of understatement. While I found a Figure (3-20) that depicts the Pine Level/Keys Tract in relation to the Big Slough Watershed, I was unable to find a figure showing the relation of polygons V, L, and K in relation to the Big Slough Watershed, but it would appear all three should be removed from consideration in deference to North Ports water supply strategy. Polygons U and Q are also described as being in the Big Slough watershed. According to Table 4-18 on Page 4-104. | The revised screening process described in Chapter 2 and Appendix B resulted in the elimination of polygons K, L, U, V, and Q from further consideration. The potential direct and indirect impacts on water quality and surface water hydrology of the Pine Level/Keys Tract as an offsite alternative are described in Chapter 4. |

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| 000000393-6 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | Following the purpose and need statement, a section on desirable outcomes that are not the central purpose can be identified. CHNEP requests that a single purpose and needs statement be issued and that the statement be followed by a section on desirable outcomes. For CHNEP desirable outcomes are those that help to implement the CCMP and include: ? Improve downstream ambient water quality. Parameters include dissolved oxygen, chlorophyll a, total dissolved solids, pH, sulfate, iron, phosphorus, nitrogen and fecal coliform. We anticipate that one or more of these parameters may improve based on the land use change. If those can be improved and other more challenging parameters are not degraded in the ambient environment, a desirable outcome is met. ? Establish a more natural seasonal variation in freshwater flows for the Peace and Myakka Rivers. Peace River Integrated Modeling Project. Southwest Florida Water Management District Minimum Flows and Levels documentation for the Lower Myakka and Lower Peace can be used to identify natural seasonal variations. ? Improve historic watershed boundaries. CHNEP contracted to develop geographic information systems data to identify historic watershed boundaries. Restoring watershed boundaries can be a component of mitigation. ? Improve to more natural historic conditions, waterbodies that are affected by artificially created structures. This outcome can be completed by minimizing containment in the mining landscape. In addition, mitigation options include removal of artificial structures and restoring old mining containment areas to return flows to natural waterbodies. ? Protect and restore habitats freshwater wetlands, as well as native upland communities vital to the ecological function of the system. This outcome can be implemented with avoidance within the mines with special reference to the Critical Land and Water Identification Project (CLIP) priority 1 and priority 2 areas, as well as the Integrated Habitat Network. ? Create landscape level habitat connections. These connections include major and minor riparian corridors such as the Myakka River, Peace River, Horse Creek, West Fork Horse Creek, Brushy Creek, Lettis Creek, Oak Creek, Hickory Creek, Buzzards Roost Branch, Brandy Branch and other tributary systems. Riparian corridors | In responding to the USACE's responsibility under NEPA, this AEIS addresses the commenter's interests within their decision making that must find the Least Environmentally Damaging Practicable Alternatives that can meet the Purpose and Need. The results of the decision making process will be captured in the Records of Decision/Statements of Findings for each individual project. The analyses in Chapter 4 include the likely impacts and include, along with Chapter 5, potential mitigation measures to achieve some of the outcomes posed by the commenter. Other local, state, and federal agencies also include responsibilities to address some of those interests by the commenter that are not under the authority of the USACE. |

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| | | | include riparian wetlands as well as associated uplands such as oak scrub. ? Increase Conservation Lands within the Peace and Myakka River basins. In the past conservation areas were protected under deed restrictions, which have little public enforceability. In recent permits, FDEP has required transfer of easement or title. This applies to avoidance areas, restoration areas and off-site mitigation areas. Our meetings with representatives of Mosaic and CF Industries, over the years, indicate a shared vision for improving water quality, hydrology and habitats of the Myakka River basin and Peace River basin. The recent settlement which includes Mosaics purchase and offer of the Peaceful Horse Ranch (Florida Forever Project) to the State of Florida is one example of this vision. A statement of desirable outcomes will ensure communication of a vision with the ACOE, phosphate mining companies and the public. Furthermore, these are the issues that help to define environmentally preferred alternative. | |
| 000000542-2 | Percy Angelo | Private Citizen | The chart, found at 4-191 of your draft Areawide Environmental Impact Statement (DAEIS), and attached in Ex. 1, demonstrates that, under the proposed permits, the phosphate mining which has been so destructive of the environment of central Florida, is simply going to continue for decades, and even get worse. Reassurances about how problems, which the industry has admitted, are a relic of the past are simply not correct. We amplify on these issues, and raise certain additional points below. | Comment acknowledged. |
| 000000547-20 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | Land Use. The DAEIS examined the changes in land use which have occurred in the four watersheds where the four mining proposals and three potential mining operations are located. Weather (freezes) and urbanization have caused more significant changes in land use than extractive uses to-date. Little additional urbanization is expected in far eastern Manatee County over the foreseeable future, while agricultural uses will remain relatively stable as some lands are mined and others reclaimed for agricultural use. Land Uses in the Watersheds within the CFPD in the Years 1974/1975 and 2009 LAND USE PEACE & MYAKKA RIVERS LITTLE MANATEE & MANATEE RIVERS 1975 2009 1974 2009 Agriculture 712,516 acres 665,708 acres 160,828 acres 131,620 acres Urban 126,291 acres 268,666 acres 20,313 | Comment acknowledged. |

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| | | | acres 90,421 acres Native Cover 804,986 acres 672,127 acres 186,234 acres 142,929 acres Extractive (Mining) 18,607 acres 25,981 acres 272 acres 2,227 acres Analysis of the 17 alternative tracts primarily identified land uses present, and the quality of the natural habitats and the agricultural lands on-site. Some inference is made, such as for groundwater use, surface water flows, water quality changes, etc., that the effects of mining the 17 alternative tracts would result in impacts similar to those caused by existing and proposed mines. Generally all potential impacts of mining these tracts were deferred until an actual mining proposal is submitted. If any of the sites are proposed for mining and would require new consumptive water use permits, the restrictions on such new uses within the Southwest Florida Water Management Districts Southern Water Use Caution Area and the Most Impacted Area would come into play. | |
| 000000553-36 | Percy Angelo | Private Citizen | In short, the Florida phosphate industry is export-oriented but built on a base of historically-owned, extensive holdings of prime Florida farmland passed down and consolidated into two surviving companies taking advantage of the favorable physical infrastructure high voltage power lines, railways and roads and the world's largest bulk-handling fertilizer port (Tampa) nearby, Now are all aided by the recent fall in ammonia prices. In addition, the Florida industry is aided by a long-standing practice of not being charged for the water it pulls up from the ground, other than the energy to pump it up. This puts it at a great advantage in comparison to the water-scarce regions of the western states, and the mines located in the Moroccan and Peruvian deserts. | Comment acknowledged. |
| 000000553-38 | Percy Angelo | Private Citizen | Many other counties have reserves of phosphate rock and are increasing their fertilizer-producing capacity, but the tight world market for fertilizer is and will continue, driven by the increasing demand for bio-fuels and the rising demand for grain-intensive, high-income foods (dairy,3meat, eggs, chicken), all of which require the intensification of crops (read: more fertilizer) on existing crop-lands. | Comment acknowledged. |

## Permitted Withdrawals/Discharges

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| **Summary Comments** | | | | |
| **W&D-1** | | | **Commenters indicated concerns about the regulation and impacts of phosphogypsum stacks relative to water quality and other environmental issues of concern.** | **Section 1.3 Scope of the AEIS and the waste management section in Chapter 4 of the Final AEIS address phosphogypsum stacks, considered to be beyond the scope of this AEIS by the USACE.** |
| 000000371-96 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | In addition, a related and potentially just as important water quality issue is that of impacts from mining related facilities such as processing plants, and phosphogypsum stacks. The protracted and ongoing USAC phosphogypsum stack closure which discharges high TDS water into Whidden Creek which outfalls to the Peace River clearly shows that such facilities can affect water quality in the river, and by extension could adversely affect public drinking water supplies relying on surface water in the Peace River Basin. We are concerned that impacts from such facilities which are certainly associated with mining and will be constructed in the study area to support mining operations, are not adequately discussed or addressed in the Draft AEIS. | Included in summary response above. |
| 000000542-120 | Percy Angelo | Private Citizen | Acknowledging the importance of spill events, the SWFMWD MegaWUP proposed for Mosaic combines all Mosaic water permits into one (for mining and processing) and is based on the use of MORE water at its chemical plants during extra heavy rainfall years. This additional water is needed, according to Mosaic, to blend with polluted chemical-process water that must be discharged when storage ponds get full. Exhibit 6. In fact the proposed MegaWUP provides for average water use by Mosaic for chemical processing of 25 MGD and peak month use of 31.25 MGD. Exhibit 7. Of course, dilution of this effluent does not reduce the total pollutant loading of these discharges. Ralph Montgomery in his comments to SWFWMD, and in his presentation to the USEPAs State of the Science conference on phosphate mining, also notes the problem of discharges from gypstacks during the closure period, when water management becomes a challenge leading to very high levels of orthophosphate discharge. See Exs 8 and 20. | Included in summary response above. |
| 000000542-127 | Percy Angelo | Private Citizen | The Corps own staff briefing materials on mining address gypstack issues, both the location of stacks and the volume of phosphogypsum disposed and its rate of generation. Ex. 30. The Corps initial website maps for this AEIS showed the | Included in summary response above. |

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| | | | location of the existing gypstacks, demonstrating the Corps recognition of their importance for the AEIS. It would be ludicrous to pretend that the Corps should consider, as the regulations say it must, the population and land use changes due to mine permitting, but exclude the extremely dirty, noncompliant and risky process by which the mined materials are processed and their wastes left in large aboveground hazardous waste dumps, forever. One must be concerned that the Corps originally intended to include gypstacks in the AEIS until it received the instructions from Mosaic, discussed below at Section U and found at Exhibit 41, which stated that gypstacks should be excluded from the AEIS. Exclusion of processing plants and gypstacks from any consideration of US phosphate mining is the creation of a myth with no connection to reality. Inclusion of processing plants and gypstacks is eye-opening. The ongoing production of gypstack waste associated with further mining is enormous. To make 1 pound of commercial fertilizer the phosphate industry creates 5 pounds of phosphogypsum slurry to be disposed in gypstacks. USEPA estimates that 32 million tons of new gypsum waste is created per year in Central Florida alone. USEPA further estimates that the current stockpile of waste in Central Florida gypstacks is nearly 1 billion metric tons. See also 4-168. Gypstacks in the CFPD range from 300 to 700 acres in size and may be as high as 220 feet. The surface includes areas of loose dry materials.' Active gypstacks in the CFPD cover 3200 acres. 4-169. There are 25 in Florida; 22 in Central Florida. Gypstack waste is radioactive and presents incredibly difficult management issues because of the large quantity of heated acidic wastewater produced in the stack system. See e.g. Floridas Phosphate Wastewater Challenges,' Onsite Water Treatment (Nov. 17, 2009). See April 19, 2011 Angelo letter. The fertilizer processing plant operations themselves are also significant, and previous filings have demonstrated that USEPA considers them to be in violation of the hazardous waste rules of the Resource Conservation and Recovery Act (RCRA). See November 13, 2009 letter and Ex. A to that letter, found in Angelo transmittal of April 19, 2010. | |

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| 000000542-130 | Percy Angelo | Private Citizen | So what kinds of questions should have been considered regarding gypstacks? We understand Mosaic contends that no more fertilizer plants and/or gypstacks will be constructed. This means future production will go to expanding existing plants and stacks. Which plants and stacks are they? Are those plants and stacks properly permitted? What volumes of waste are anticipated? Is modification, upgrading or expansion necessary? Will any modification or expansion of older plants or stacks meet all current standards for windstorms and the like, and what bonds will be in place to insure proper handling? Will Clean Air Act new source permits be obtained for such modification, upgrading or expansion? What consequences and discharges can be anticipated on closure of the existing gypstacks. The Ralph Montgomery comments, Ex. 8, and the evidence of gypstack spills, show that gypstack discharges, including during closure, create serious problems. The comments cited above demonstrate that gypstacks have had very serious ongoing problems with water management (the state simply provides consent orders to allow discharge of wastewater when the system became overloaded). The AEIS should provide calculations, based on real life weather variations, showing the ability to manage the water associated with gypstack systems under all circumstances. | Included in summary response above. |
| 000000553-10 | Percy Angelo | Private Citizen | Yet gypstack spills occur regularly during Florida rainy seasons because the stacks simply arent designed to retain that much wastewater. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000281-2 | Sandra Ripberger | Private Citizen | The AEIS relies on reporting, documents and models provided by Mosaic. None are independently verified. In this section the study says, Monitoring wells operated by the applicant show reduced water use. Pilot studies of improved recharge ditch designs -- to increase groundwater recharge have shown these measures to be effective. Reports by Mosaic of reduced water use are a core of the AEIS and form the basis of projections about future water supply in the Central Florida Phosphate District. | Information produced by Mosaic was used for reference in some cases, but is not the basis for the Final AEIS. The SWFWMD monitors and enforces water usage, and has documented the reductions in water use by the mining industry. The groundwater section of Chapter 4 and Appendix J of the Final AEIS provide detail on the analytical approaches and models used. |

## Permitted Withdrawals/Discharges

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| 000000281-9 | Sandra Ripberger | Private Citizen | ES 7.2 Throughout the AEIS, the effect of Mosaics water drawdown of the Floridan Aquifer System is proposed to be limited by SWFWMDs plans to require agricultural use to be reduced by 2025. This plan is based on conjecture, is a very tenuous basis for allowing new strip mining and would not likely be the publics choice for water allocation. | It is assumed that SWFWMD will implement their SWUCA policy which will limit overall impacts to the region while still allowing some increased pumping in certain areas. Those increases will be offset by reductions in agricultural use and alternative water supplies. Sections 3.3 and the groundwater section of Chapter 4 of the Final AEIS describe provisions to recent WUPs by SWFWMD. |
| 000000281-19 | Sandra Ripberger | Private Citizen | 3.3.7.6 Residents of Manatee County are very concerned that we are the most impacted area in the Southern Water Use Caution Area. The SWUCA Recovery Strategy includes capping of water allocations at 650 mgd for all users, with reductions to 600 by 2025. The use of 50 mgd by the phosphate industry is unwarranted in this environment. | Modeling conducted as part of the Final AEIS accounted for projected agricultural use reductions of 50 mgd, but all other users' allocations were maintained at the 2006 rates included in the DWRM2.1 model as discussed in the groundwater section of Chapter 4. Groundwater modeling of the Floridan aquifer water levels indicated that regional water levels in the FAS are predicted to increase (a rise in level) over most of the model domain as agricultural water use allocations within the SWUCA are gradually reduced. |
| 000000281-26 | Sandra Ripberger | Private Citizen | Throughout the AEIS, the phosphate industrys plans are embraced before they are actually in effect proposed technologies can be expected to be the same or better than existing. Discharges are only said to occur with significant rainfall accumulations but Florida has plenty of those. | Comment acknowledged. |
| 000000282-2 | Allain Hale | Private Citizen | When I read the draft AEIS, I saw nothing about how Mosaic would deal with adverse environmental impacts. Their assumption is that there would be none, so there was no mention of how any would be handled. Its for this reason that I want to see the following policies be adopted into the draft AEIS: (1) that the mining shall stop operations until the water table recovers and the Myakkahatchee resumes its flow. If this doesnt happen, then (2) Mosaic must reimburse the City of North Port for the added expense of importing water at a higher rate to its users. | Chapter 1 describes the goals and purpose of the AEIS; it is not an enforcement document. Water use permitting and enforcement is the responsibility of the FDEP and SWFWMD, as delegated by FDEP. |
| 000000282-3 | Allain Hale | Private Citizen | There must be included in the draft AEIS a policy of how the company intends to deal with mishaps and water supply problems, even if they never occur. | Comment acknowledged. The details of emergency response are part of the FDEP permitting process. |
| 000000348-9 | Barbara Angelucci | Private Citizen | 4.4 Groundwater 4-63There is an Administrative Hearing underway against Mosaic Mega Water Permit and SWFWMD, Case Number 12-001043.Some of the issues are related to usage of groundwater pumping for closed plants, and from wells on 300 acres that Mosaic does not legally | Comment acknowledged. |

## Permitted Withdrawals/Discharges

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| | | | own, to additional dilution of wastewater discharges violation of Clean Water Act, which the EPA has previously issued Consent Orders on. The ACOE should wait until this case is decided by an Administrative Judge before any Final AEIS is complete. | |
| 000000365-10 | Carol Mahler | Private Citizen | The AEIS mentions a pipeline conveyance for water pumped from the Florida Aquifer System at the Fort Green Mine, now closed, to the proposed DeSoto Mine/ Pine Level/Keys Mine on line 29, page 4-9, line 26, p. 4-75; line 6, p. 4-81; lines 9 and 24, p. 4-82. No discussion is given of the site for the approximate 25-mile route, its capability, or potential for leaks; nor does it discuss the energy expended in pumping the water that distance when figuring the cost of energy. | The proposed pipeline routes are located and described detail in the Public Notice issued on June 1, 2012 and posted on the AEIS web site. It will run through Polk, Hardee and DeSoto Counties and alternative routes are also shown, each of which is about 35 miles in length. Permitting authority is by the Florida DEP and the applicant will work with the state and local county or other agencies as required for appropriate clearances and design approvals. Testing and operational requirements will be determined by those agencies and is outside the scope of this Final AEIS. |
| 000000369-27 | Manatee County, FL, Ed Hunzeker | County Government | 6. Section 4.11.1, Page 4-162: The draft AEIS states that the Southwest Florida Water Management District (SWFWMD) has implemented measures in water use permitting which are proactive in addressing dewatering impacts. Please verify that these measures have been incorporated into Chapter 40D-2, Rules of the SWFWMD Water Use Permits. | The Southern Water Use Caution Area restrictions are incorporated to Chapter 40D-80.074 and are referenced in the groundwater section of Chapter 3 and the groundwater and cumulative impact sections of Chapter 4 of the Final AEIS. |
| 000000370-10 | Maynard Hiss | Private Citizen | In phosphate areas many of the people are poor and cannot afford the necessary monitoring of the water and on site treatment facilities that would mitigate the water quality problems. Many people rent from landlords that will not provide the necessary on site treatment facilities. 17) The proposed study does not include an analysis or monitoring program to assure that existing municiple and onsite users underground water supplies systems will be protected. Nor are there contingency plans to mitigate problems should they arrise. There is not even a program to identify such problems should they arrise. 18) Many people in the phosphate mining area are poor and depend on medicaid and medicare. What is the projected health risk from increased pollution and increased deterioration of existing potable water supplies and also air borne pollution. How many people will be sick, how many will die and how many will be dependent on the state and federal government for resolving increaed health risks are not answered.19) Because of changes in the water quality and | An environmental justice review was conducted in the environmental justice sections of Chapters 3 and 4 of the Final AEIS and identified proposed or alternative mining sites with minority or low income populations above a specified threshold which is summarized in tables in Section 3.3.7. Impacts to these populations as a result of other environmental or economic impacts were described in Chapter 4. |

## Permitted Withdrawals/Discharges

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| | | | quantity there will also be differences in the erosion rates of the underground geological formations. These health risks associated with sink hole activity have not been properly addressed in the report.20) Will the phosphate industry reimburse the public for these health risks. For example, if the Human Take and Health Deterioration Permit from phosphate mining is projected to increase deaths and sicknesses by x amount, will they have to mitigate these impacts like they do endangered and threatened species or are the costs tranfered to the public agencies or to the individuals who are the victims. | |
| 000000370-11 | Maynard Hiss | Private Citizen | 1) There is an extremely high demand for water and over allocation of existing supplies in the region to begin with. Such high demands have already stressed the aquifers, and surface supplies, and lowered them so much that surface water and wetlands are sucked dry. There is little wiggle room for dealing with droughts as urban demand increases during dry times. There is no assurance that the phosphate mining companies will shut down or cease impacting the water supplies if they are aggrevating the problem. There is not a sufficient mitigation plan in times of emergency like there is for cities. For example, if significant problems occur after the permit is issued will they be resolved or will the phosphate mining companies be grandfathered in as a persistent impact with little or no remedial action. And there is insufficient monitoring program to even identify the problem, as the permit analysis did not include the natural and culturallly created extreme fluctuations in the natural groundwater systems. If it was not initually looked at it certainly will not be considered in the monitoring program. So if a problem exists it will unlikely be identified. | The effects of surface runoff, recharge, and evaporation/transpiration within each mined area have been addressed with the updates to the model in Appendix F. Chapter 4 discusses the longer term cumulative impacts that may be affected by droughts. |
| 000000370-12 | Maynard Hiss | Private Citizen | And also he human health impact to home owners that rely on wells, and septic tanks, and impact public health providers. | Although the data provided in the groundwater section of Chapter 4 indicates that groundwater quality should not be impaired by the proposed mining activities, owners of septic tanks and private wells are responsible for their own maintenance and water quality of these facilities (USEPA, 2013). |
| 000000371-9 | Peace River Manasota Regional Water | Regional Agency | The AEIS also needs to address how much of the predicted dry-season changes in flows resulting from the mining alternatives (individually and cumulatively) will impact | The Final AEIS considers seasonal variations on flow, as discussed in Section 4.2 and Appendix G. Additional sensitivity analyses were included on the potential effect of |

## Permitted Withdrawals/Discharges

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| | Supply Authority, Mike Coates | | allowable water use under the District's established Minimum Flows and Level (MFLs). Specifically, the AEIS needs to address how the alternative actions will decrease the number of days public water suppliers will have the ability to withdraw from the both the lower Peace River (Authority) and Big Slough (City of North Port), and the associated economic impacts that will occur from this reduced water supply. | the capture area and flows after reclamation. Cumulative impacts are addressed in AEIS Section 4.12. A Minimum Flow and Level (MFL) study is a SWFWMD responsibility and will be evaluated as part of its permit review process. |
| 000000371-15 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | As the closest mine to the Peace River Facility, the 18,000+ acre Desoto mine site includes nearly 12 miles of stream impacts that would seem to have the greatest potential for impacts (less potential distance for dilution/recovery) to the Peace River Facility. | The cumulative impacts section of Chapter 4 and Appendix G discuss the delivery of flow to the Peace River Facility. |
| 000000371-40 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | "Two new mines will require construction of new beneficiation plants (Mosaic's Desoto and Ona Mines) and two new mines do not require additional beneficiation plants." Since these and other existing chemical plants in the northern watersheds flowing to Tampa Bay have had a history of releasing pollutants to downstream waters, why are chemical plants and beneficiation plants excluded under the ACOE other considerations of the Clean Water Act? | Section 1.3 of the FAEIS discusses the basis for excluding chemical (fertilizer) plants from the AEIS. Beneficiation plants are included in the FAEIS but they do not have an independent NPDES discharge and whatever chemicals might be returned to the mine for reuse, transport of clays, or possible release will occur through a permitted NPDES discharge where water quality standards are monitored and enforced by the state. |
| 000000371-55 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | AEIS states that the most recent Peace River Facility water use permit modification was in April 2011 there are actually two permit modifications following that date. The AEIS needs to update this section. | The Final AEIS has been revised to reflect updated permit modification dates. |
| 000000371-56 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Since the City of North Port is provided water by the Authority during the dry-season, any reductions of flows down the Myakkahatchee Creek (Big Slough) would require the Authority to supply additional water for a longer extended dry season to the City and thus affect both utilities. The AEIS needs to address such economic costs to currently permitted users. | There is no application for mining pending in the Big Slough Basin. The Foreseeable Future Mine alternative in this area will need to address this issue, if and when it is proposed. |
| 000000371-83 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Cumulative Impacts. The AEIS addresses cumulative impacts direct and indirect effects of the proposed actions and the alternatives, USACE lists the following topics relative to potential cumulative effects of mining: I. "Aquatic Resources and Upland Habitat: Loss of streams, freshwater wetlands, and natural uplands. 2. Floridan Aquifer Water Levels: Mining contribution to regional aquifer water level | Cumulative impacts on groundwater resources are addressed in the cumulative impacts section of the Final AEIS, and potential effects of each of the alternative scenarios on economic resources are discussed in Chapter 4 of the Final AEIS and in Appendix H. Additional explanation on the scope of the Final AEIS relative to phosphogymsum stacks is discussed in Section 1.3 and the cumulative impacts section of |

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| | | | drawdown due to water supply withdrawals by all FAS users authorized by SWFWMD. 3, Surface Water Hydrology: Alterations to surface water deliveries to downstream portions of the watersheds affected by the various mines with concurrent operational periods, and other reasonably foreseeable land use changes. 4. Surface Water Quality: Alteration of water quality of streams and river reaches receiving direct discharges from phosphate mines in relation to agricultural, urban, and other man-induced changes in land uses affecting point and nonpoint pollutant loading. 5, Economic Effects: Net changes in regional employment and overall economic productivity associated with mining as related to agricultural influences on these economic metrics, as well as in relation to indirect and induced effects on the regional economy". The AEIS needs to specifically address cumulative impacts on dry-season flows on the seasonal availability of public water supply quantities, as well as the potential cumulative impacts of phosphogypsum stack closures on water quality. The AEIS needs to address the cumulative economic costs of developing additional storage/supplies by public suppliers given these expected cumulative impacts. Again the draft AEIS in this discussion of cumulative impacts (as in previous comments) does not adequately address public water supply issues (quantity and quality) for either the existing permitted uses by the City of North Port (Myakkahatchee Creek) or the lower Peace River (Authority). The AEIS needs to better address these cumulative criteria relative to both direct and indirect effects. | Chapter 4. |
| 000000371-97 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | The Authority appreciates the opportunity to comment on the May 2012 Draft AEIS. Based on the large volume of information the Authority provided the AEIS project team early in the scoping process, the discussion above, and the attached July 11, 2012 comments, we hope a more thorough analysis of the potential impacts to our drinking water source will be undertaken as part of the AEIS process. | Comment acknowledged. |

## Permitted Withdrawals/Discharges

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| 000000386-2 | Betty Sue Carroll | Private Citizen | We in Southwest Florida are getting extremely fed up with being continually cautioned to conserve every drip of water we use, while a private industry, Phosphate mining, is being given unlimited access to the water that is ours. As a warning, people are beginning to take notice of this situation, and may not be as tolerant much longer. | Comment acknowledged. |
| 000000542-115 | Percy Angelo | Private Citizen | The parameters monitored at NPDES outfalls are very limited and do not begin to address the universe of water quality risks- Depending on the loadings allowed in a permit, a discharge may cause water quality violations even if it is in compliance with discharge standards. Any regulator or consultant knows this. The failure to acknowledge it in the DAEIS is indefensible. Moreover, the NPDES discharge limits mentioned do not consider the numerous chemicals used in the beneficiation process, which may include hydrocarbons, including fatty acids, amines, fuel oil and others. In fact, nowhere in the AEIS are these chemicals even identified. At 4-198 the DAEIS congratulates the industry for discharging less of these mystery chemicals, which it still does not name. This is a serious and highly questionable omission. Any forthright consideration of the problem would identify the chemicals and test for them in the discharges AND IN THE GROUNDWATER SURROUNDING THE MINES, since the ThirtyMile Creek reports show that pollution does not necessarily leave the mine in a monitored discharge. At 4-118 the DAEIS recognizes that beneficiation reagents may be an issue in CSAs, though again it does not name them. In fact at 4-167 to 168, it pretends that there are few wastes from mining, entirely ignoring reagent chemicals. It notes that monitoring wells have been required at some CSAs and provides data for a CSA at South Pasture. But, again, none of the parameters measured there are related to the reagent chemicals used (though pH problems were shown). The USEPAs Superfund report on the Tenoroc mining site lists the beneficiation chemicals used as alkali (sodium hydroxide), tall oil (a mixture of rosin acids and fatty acids), No. 5 fuel oil, kerosene, amine and sulfuric acid. Ex. 21, at 7. It specifically cites mine and processing plant problems as contamination of surface water and groundwater by fluorides, acids, heavy metals, and radionuclides.' Id. It concluded that inorganic elements and radionuclides are | The volume of floatation agents used in the beneficiation process is small when compared to the volume of mine recirculation water, within which the reagents would be transported - primarily with the sand tailings. The permitting of any new beneficiation plant would be required by the FDEP to meet water quality standards for any components that are considered harmful or would likely degrade water quality. |

## Permitted Withdrawals/Discharges

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| | | | concentrated through the beneficiation process and then 'released back into the environment in the tailings and clay pond sediments.' Id. at 18. Radionuclides and a significant list of inorganics were found at elevated levels. The report indicated concern for the groundwater exposure pathway and the surface water exposure pathway which was of primary concern. Id. at 52. There are numerous Superfund sites associated with formerly mined lands in Florida. Ex. 22. This report information has been provided to the Corps. The authorities know there are problems, but they simply decline to address them. | |
| 000000542-118 | Percy Angelo | Private Citizen | Very significant amounts of chemicals are also released at the fertilizer plants. The Federally mandated TRI or Toxics Release Inventory provides quantities of toxic chemicals released as reported by the companies. The most recent TRI numbers for Mosaic and CF are found in Ex. 23. The contaminants are worrisome (zinc, vanadium polycyclic aromatics, mercury, lead, ammonia sulfuric acid, and hydrogen fluoride) and the numbers are huge. Mosaic alone released 2,780,028 pounds of toxics in 2010 (after 1,771,488 in 2008, an increase of over 50%). It is highly improper for the AEIS to act as if this TRI data does not exist and to discuss water quality without taking it into account. None of these serious impacts and potential impacts are discussed or even acknowledged in the DAEIS. | Comment acknowledged. The proposed actions are in the southern CFPD and no new fertilizer or chemical plants are proposed to be constructed as a result of these mines. |
| 000000542-171 | Percy Angelo | Private Citizen | All mining permits should be inventoried and summarized, including NPDES permits, Clean Air Act permits, including new source permits, and COE and state mining permits and county approvals. -All resources impacted by mining should also be listed, e.g. Charlotte Harbor is a federal Aquatic Resource of National Importance (ARNI); the Myakka and Little Manatee Rivers are Outstanding Florida Waters (OFW), the Peace, Myakka and other rivers and their tributaries are also important resources. -A schedule of anticipated mining for each mine, with realistic periods for reclamation, should be created so that it is possible to identify all cumulative impacts for mines operating at the same time and the acreage involved. Groundwater withdrawal needs for each period for each mine should be cumulated. For example, we know that Altman, South Fort Meade and Ona are scheduled to operate concurrently. The impact of several mines | A discussion of compliance with applicable regulatory requirements for all environmental media is presented in Chapter 6 of the AEIS. |

## Permitted Withdrawals/Discharges

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| | | | operating concurrently could obviously present additional issues. | |

## Editorial and Nomenclature

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **ED-1** | | | **Commenters noted errors or omissions in references in Chapter 7.** | **Chapter 7, References, has been updated and revised for the Final AEIS to include all references cited in the text, and to remove reference list entries for references not cited in the text. The term buffers will be in the index where it applies.** |
| 000000349-16 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 7.0 - Work Cited Page = Page 23 Line = Entire Section Issue: General Quality Comment Comment: Have any of your editors reviewed this section to assure that the references indicated have actually been cited? There appear to be errors, for example, references that are not cited in the text but are listed here; references that are cited in the text but not listed here. Two example errors are indicated below. | Included in summary response above. |
| 000000349-17 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 3.0 Assumptions Page = Page 9 Line = 10 Issue: Reference "(FDEP, 2008)" Reference omission Comment: In Section 7.0 Work Cited, there is no "FDEP, 2008" | Included in summary response above. |
| 000000349-18 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 3.0 - Assumptions Page = Page 10 Line = 9 Issue: Reference "(U.S. Census Bureau, 2008)" Reference omission Comment: In Section 7.0 Work Cited, there is no "(U.S. Census Bureau, 2008)" | Included in summary response above. |
| 000000369-34 | Manatee County, FL, Ed Hunzeker | County Government | Chapter 7: References: A comment was previously provided via email to John Fellows, (Project Manager) on June 22, 2012 regarding the lack of availability of many of the references cited. Therefore, the comments provided in this letter are based on the draft AEIS and the references that were readily available at the time. Other: 1. Add "buffers" to the Index. | Included in summary response above. |
| **Individual Comments** | | | | |
| 000000272-55 | Sarasota County, FL, Christine Robinson | County Government | 1-1 As per 40 CFR 1501.7, determines the scope and the significant issues to be analyzed in depth in the AEIS. Page 1-16 states the Purpose and Need of the alternative analysis was based on the Draft AEIS. | This statement does not occur in the Final AEIS. |
| 000000280-38 | Lee County, FL, Roland Ottolini, P.E. | County Government | 4.3.2.2 Alternative 3: Ona Mine P.4-35, line 14-15 The impact figures do not match Table 4-6 on P.4-30. | The discrepancies in the impact figures for the proposed Ona mine have been corrected in the Final AEIS. |
| 000000349-1 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Page = 23 Line = N/A Issue: "EcoNorthest. 2011", Error Comment: Should that reference be "EcoNorthwest. 2011"? | The Final AEIS text has been revised to read "EcoNorthwest, 2011." |

## Editorial and Nomenclature

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| 000000349-15 | Robert Fellman | Private Citizen | Doc Ref = Appendix F Section 3.0 Assumptions Page = Page 9 Line = Line 6 Issue: "The value of 7.10 tonnes per acre was used for existing mines...." Error. Comment: The correct value according to Table 5 is 7100 tonnes/acre. | The text in Appendix F of the Draft AEIS (which is Appendix H in the Final AEIS) has been revised to read appropriately for the Final AEIS. |
| 000000351-8 | Debra L Highsmith | Private Citizen | Where is the consensus of 20 years of science in the Peace and Myakka watersheds? New work presented in the DAIES has not even been peer reviewed. | Comment acknowledged. |
| 000000365-11 | Carol Mahler | Private Citizen | In Chapter 10, Glossary, fertilizer on line 22-23 of page 10-6, is defined with a huge bias toward phosphate mining as mineral materials whereas a standard dictionary definition is a substance (as manure or a chemical mixture) used to make soil more fertile. The root word fertile means producing or bearing fruit in great quantities and derives from the Latin word to carry or bear and has been in use in the English language since the 15th century (Merriam-Webster Dictionary online: www.merriam-webster.com). | Chapter 10, Glossary, has been revised for the Final AEIS to include a more accurate and complete definition of "fertilizer." |
| 000000365-12 | Carol Mahler | Private Citizen | In Chapter 11, Index, please include in the place names throughout the CFPD to help residents to quickly locate any mention of their neighborhoods included in the discussions of the AEIS. | Chapter 11, Index, has been revised for the Final AEIS to include numerous place names to aid reader understanding of the document. |
| 000000369-35 | Manatee County, FL, Ed Hunzeker | County Government | Appendix A: Site Aerial Photographs: 1. Exhibit on page A3-3. Please verify that the perennial stream segments match those in the Soil Survey of Manatee County Florida. If they do not, please state why | Data available in GIS datasets referenced are included in these plots. |
| 000000369-41 | Manatee County, FL, Ed Hunzeker | County Government | 12. Section 4.12.2, Pages 4-187, Line 4: The Future Development Area Boundary was established with the adoption of the Comprehensive Plan in 1989, not too recent. | The Final AEIS text has been revised such that this comment is no longer applicable. |
| 000000371-69 | Peace River Manasota Regional Water Supply Authority, Mike Coates | Regional Agency | Impact summary Tables The numbers used in the summary tables don't seem to match the numbers in the ES text, and then table 1-5 uses other numbers. It would be helpful to the reader if all these tables were based using the same criteria. | The referenced data discrepancies have been corrected in the Final AEIS. |
| 000000396-6 | Southwest Florida Water Management District, Darrin W Herbst, PG | State Agency | Chapter 3, Page 3-141, Lines 5 and 6 Pursuant to Chapter 40D-2, F.A.C., SWFWMD issues water use permits for all groundwater users whose withdrawals average 100,000 gpd, who withdraw from a 6 inch or greater diameter well, or who have the capacity to pump 1,000,000 gpd. There are also surface water intake pipe constraints and pumping capacity limits for direct surface water withdrawals that require a | The Final AEIS text has been revised appropriately |

## Editorial and Nomenclature

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| | | | water use permit. Domestic self supply and household irrigation wells are exempt from water use permitting requirements. Therefore, not all water users require a water use permit. | |
| 000000542-36 | Percy Angelo | Private Citizen | At 4-187 to 188 the DAEIS tells us that mining is currently 10% of the Peace River watershed of 2350 square miles (1,504,000 acres, of which 10% is 150,400 acres, devoted to mining now). This is a difference of over 50,000 acres from 4-174. According to 4-187 to 188, eighteen percent is native (natural) lands. It doesnt tell us the next obvious question, what percentage of the watershed will be devoted to mining under the AEIS. We have to do our own work to estimate those figures. Very roughly, since the data we are given is not broken down by watershed, we can estimate that the proposed Peace River mines and Pioneer will involve over 73,000 acres, almost 5%, for a total of 15%. We dont have the data to calculate the amount of natural lands lost to mining, but it is likely high in light of the fact that mining will take place in the south and prior mining and urban development is in the north. Id. We can calculate from data elsewhere that almost 22,000 wetland acres will be lost to mining. See 1-17 to 19 and 4-30. Sixty-two miles of streams will be lost within the Peace watershed alone. Id. (The omission of this data for the Peace is interesting since these figures are given for the Myakka. Mining will go from 0.8%% to 7.4%, including Pine Level. Wetlands and water comprise 22%, but again, we are not told how much will be lost. Id.) These numbers are in addition to the losses already incurred, 136,000 of 355,000 acres of wetlands (38.5%), 31,000 of which were lost despite regulatory limits on losses, and 343 miles of streams. 4-189. | The Final AEIS has been revised to addresses the potential loss of wetlands and streams within the applicable watersheds as a result of applicant- proposed mines and foreseeable future mines in Chapter 4. |
| 000000542-116 | Percy Angelo | Private Citizen | The apparent reason for this head in the sand attitude by the regulators is found in the DAEIS at 3-100, and the Corps and its consultant seem almost embarrassed by the record. They cite a 1983 decision by FDEP, in negotiation with the Florida Phosphate Council, to require each mining company to take ONE sample of tailings water to analyze for the fuels and flotation agents used in beneficiation. The quotation in the DAEIS is from the 1983 document and is printed in its original type, apparently the Corps and its consultant dont even want to be responsible for retyping this ludicrous substitute for real analysis. Yet the DAEIS cites this 1983 deal as the reason for | Additional discussion has been added on groundwater and monitoring. The FDEP sets appropriate standards for monitoring and water quality monitoring and enforcement. |

## Editorial and Nomenclature

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| | | | FDEPs typically not requiring routine groundwater monitoring at phosphate mines.' Id. Notably, the DAEIS states that FDEP also only requires compliance with groundwater standards at the border of phosphate mines, 3¬ 101, with the result that, as discussed above, most of the groundwater in the CFPD will simply be abandoned to the mining companies. Unfortunately the Corps never discusses these issues in its Consequences section. | |

## Surficial Geology and Soils

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Individual Comments** | | | | |
| 000000272-13 | Sarasota County, FL, Christine Robinson | County Government | According, to the Ground Water Atlas of the United States (HA 730-G) "The intermediate aquifer system is the main source of water supply in Sarasota, Charlotte, and Lee Counties Florida, where the underlying Floridan aquifer system is deeply buried and contains brackish or saltwater...In most places, water moves downward from the surficial aquifer system and through the upper confining unit of the intermediate aquifer system;.....water moves outward in all directions from two recharge areas in southwestern Polk County. | Comment acknowledged. The Final AEIS Appendix F groundwater modeling has been updated to incorporate the surfical and intermediate aquifers into the simulation. |
| 000000272-88 | Sarasota County, FL, Christine Robinson | County Government | Indicates that karst solution cavities are restricted primarily to Polk County and Upper Peace River Basin in Hardee County need to also include locations of sinkhole activity in Manatee County. | The Final AEIS Figure 3-28 shows the locations of known sinkholes in the Upper Peace River Basin, and their decreasing frequency of occurrence to the south and west until the southwestern Polk County (Fort Meade) area, where they are rare. Further to the south in Hardee County and to the west in Manatee County, the depth to limestone increases to greater than 200 feet on average (Ann Tihansky, Sinkholes, West-Central Florida, pp. 122-140 in USGS Circular 1182, "Land Subsidence in The United States", USGS 1999), which results in a lower frequency of sinkhole occurrence. In this area, based on recorded sinkholes and geology of the area, sinkholes are much rarer than in the area from Pinellas county on the west coast to the east through Hillsborough and Polk Counties (FDEP, 2013). |
| 000000369-32 | Manatee County, FL, Ed Hunzeker | County Government | Chapter 5: Mitigation: 1. Section 5.3.2, Utilization of Soils: Manatee County staff requests that an accurate review of the utilization of native wetland topsoils be investigated. A comparison of mucked mitigation sites versus non-mucked sites should compare plant species richness and coverage, and wildlife use. Alderman Creek Bay Swamp Demonstration Project (referenced on page 5-7) is a good example of the use of wetland mucks; however, the same level of care and funding is not given to every reclamation unit. Availability of soils and storage and spreading logistics should be included in the review. | Section 5.2.2 of the Final AEIS describes how soils are considered in the wetland mitigation planning process. Monitoring, success criteria, and adaptive management are all required parts of an approved USACE wetland mitigation plan, regardless of whether donor topsoils are used or not. |
| 000000393-7 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP questions the adequacy of the analysis of soil characteristics and potential changes for the alternatives. An overview of soils is provided in Chapter 3 of the DAEIS but no analysis of soils beyond hydric soils for wetland | The soils section of Chapter 4 and Appendix G of the Final AEIS consider changes in soils as they relate to surface water runoff. Sections in Chapter 4 on unavoidable adverse impacts and irreversible and irretrievable commitments of resources |

## Surficial Geology and Soils

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | assessment is provided for the alternatives. Chapter 3, page 3-17, states: In the Peace River Basin, the most predominant soil group is A/D with a total cover of 49 percent. Although these are sandy type soils, they are characterized by having high groundwater levels. Soil hydrologic group A covers approximately 18 percent of the Peace River Basin. Given that the most predominant group of soils for the basin is of high and low permeability, changes as a result of phosphate mining may be expected. CHNEP requests that soil changes as a result of phosphate mining be assessed for the alternatives. | further address impacts of the alternatives on soils. |

## General Comments

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Summary Comments** | | | | |
| **GEN-1** | | | **The preparation of the AEIS by a third-party contractor paid for by the applicants creates a conflict of interest.** | **CEQ and USACE regulations and guidance allow for the preparation of an EIS by a third-party contractor paid for by an applicant. The third-party contractor for the AEIS was selected in accordance with CEQ and USACE regulations and guidance, and executed a disclosure statement indicating that there was no conflict of interest. The USACE regularly participated in the preparation of the document, independently evaluated the information in the document to ensure that it was technically adequate and not biased, had the final determination whether the data provided is adequate and accurate, and takes full responsibility for the scope and contents of the EIS.** |
| 000000195-3 | AccentsAway, Marcia Hoodwin, M.A. | Other | Also, isn't it a conflict of interest to have the mining companies paying for the study? | Included in summary response above. |
| 000000273-2 | Diane Desenberg | Private Citizen | When a government agency that has regulatory or review oversight over an industry comes to be dominated by that industry, rather than pursuing the overall public interest, that agency is said to be "captured". For example, the Minerals Management Service (MMS) was thoroughly captured by the oil industry that it was supposed to regulate, and thus did not perform proper due diligence to prevent the catastrophic 2010 BP oil spill in the Gulf of Mexico. The obvious question is - how was the Army Corps captured by the phosphate industry? According to the Sarasota Herald Tribune, the environmental report was developed by CH2M Hill and funded by Mosaic and CF Industries ¬ the same mining companies seeking permits from the Army Corps. The Army Corps may have put their name on the final document, but the financial trail points to a tainted document. | Included in summary response above. |
| 000000542-205 | Percy Angelo | Private Citizen | U. The AEIS Process Has Been Improper and is Apparently Biased p. 51 -Besides the inexplicable exclusions of important issues, discussed above, the AEIS process itself has been improper in its decision to avoid the collection of additional basic data.- Ex. 40, CH2MHill Letter of Agreement, January 28, 2011, with attached Professional Services Agreement and Statement of Work for An Areawide Environmental Impact Statement of Phosphate Mining in the Central Florida Phosphate District. | Included in summary response above. |

## General Comments

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| **Individual Comments** | | | | |
| 000000013-7 | Norma and John Killebrew | Private Citizen | 5)Surface albedo or reflectivity: More research needs to be done in this area. We believe the lack of rain in our area is due to albedo/reflectivity...vegetation absorbs more heat than bare soil...I spoke to Mr. Orlando River regarding exactly what the state is doing with this research that indicates surface albedo plays a part in creating areas of low moisture. We live in an area of drought conditions which mining certainly plays a part in perpetuating. | Comment acknowledged. This topic is discussed in the Final AEIS in Section 4.9.1.3. |
| 000000017-2 | Kristi Patel | Private Citizen | I am requesting serious and professional scrutiny be given to "gaps" of existing information/ with allocation of funds to establish the necessary research and data collection to fill those gaps. Due to the history of potentially "biased" information...I am requesting that USGS be the only government agency to oversee the necessary research to provide public health assurance and public interest. | Comment acknowledged. The USGS has been a participating agency in the preparation of this AEIS, primarily in areas related to water resources. Public interests including public health related information has been addressed in the Final AEIS in the related sections in Chapters 3 and 4. |
| 000000017-3 | Kristi Patel | Private Citizen | I am requesting any and all information/data acquired or utilized in the Area Wide Cumulative Research Study to date that is based out of "FIPR-Florida Institute with potential bias due to history of Institutes overt influence/interdependence of Phosphate Industry.of Phosphate Research" to be perceived as "Self-Reporting". | Comment acknowledged. The preparation of the AEIS relied on information from a variety of sources, including the public, government agencies, non-governmental agencies, and the applicants. |
| 000000017-6 | Kristi Patel | Private Citizen | 3. Out of State Reference:...EPA Region 5 Administrator Mary Gade 8-Fired for Establishing an Emergency Super-Fund for Dioxins/DOW CHEMICAL and fired after having a glowing evaluation by superior three months prior. Formal Congressional Investigation by Boxer/Whitehouse requesting termination of Cabinet Environmental Administrator Stephen Johnson. (Historical documentation of Industry/Corporate OVERT influence over legislative process4. FLORIDA: JD Alexander's Appropriations Steering Committee.precipitates "9 Day Summary Hearing" in August 8 session after...litigation by Charlotte County Florida petition regarding Impact of Phosphate MIning. This documented action "blatantly" and legally shows the "OVERT influence of Industry/Corporate Influence over legislative process which is against the law and meets criteria of corruption and abuse of office.(GAP-Government Accountability Project) Jennifer Fitzwater DEP-Legal stated to me that she and her entire office were "unaware" of this action until it passed in Statutory Law..this | Comment acknowledged. |

## General Comments

| Submission and Comment Number | Organization/ Commenter | Commenter Type | Comment | Response to Comment |
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| | | | legislature acted autocratically without the counsel of Public Servant Scientific Community sold the public interest/protection for future personal/industrial gain. It was further said that with "PIney Point" initiative...there was some "giving and taking" to mitigate. The Government does not need to "negotiate" without any strength with private business that does not constitute PUBLIC INTEREST. Industry exhibits consistent profit..private. | |
| 000000199-15 | James Cooper | Private Citizen | And I don't understand that because I used to be in the Air Force and I did an EIS, and we totally followed the federal rules. And we got the product done, and we got it done in three years.And we covered an entire state, small state, Idaho but still. So, you know, I know that it can be done better because I've done it myself. And they're a much bigger company; they have more money and more employees. So, you know, I would just like to see them, if they can do their best, I will be mighty happy.And it goes along with the Corps too, I'll be mighty happy. But if they don't, I think the citizens are being short changed because the Corps gets paid with taxpayers money.That's it. | Comment Acknowledged. |
| 000000277-9 | Charlotte County Board of County Commissioners, Christopher G. Constance | County Government | We are optimistic about the opportunity to contribute to the development of the AEIS document and would like to see these concerns addressed in the Final Draft of the AEIS. The issues mentioned in this response document are valid and should be addressed in the future progression of the development of the AEIS and the permitting process of the proposed mining actions. We believe that there is an option that permits the proposed action without facing potentially devastating results to the environment and the citizens of Charlotte County. Charlotte County looks forward to continued cooperation for the completion of these goals | Comment acknowledged. |
| 000000281-1A | Sandra Ripberger | Private Citizen | Although the time frame for comments on the draft AEIS is insufficient to allow for a thorough review, we have read enough be concerned that the study is lacking in independent research, particularly regarding reclamation of wetlands and water issues related to phosphate mining. | The public comment period for the Draft AEIS was extended from the normal 45 days to 60 days and based on comments received the USACE believes that sufficient time was allowed for public comments. Reclamation is under the direction of the FDEP. However, the evaluation of wetlands restoration and a related mitigation framework are discussed in detail in Chapter 5. Extensive independent analysis and modeling was conducted for the Final AEIS for surface water (Section4.4), groundwater (4.5), and water quality (4.6) |

## General Comments

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| 000000356-1 | Thomas G. & Pamela R. Marciniak | Private Citizen | We would like to urge the ACE team to consider the following issues absent or lacking from the draft study. We would like to urge the Corps to recognize the multiple impacts on our groundwater and our surface water and wetlands from mining. We would also like to ask for an analysis of wetland and stream damage and the problem of long delays in replacing these important features. We would like to ask the Corps for a full study of the impacts of gypstacks and their spills. | The analyses on impacts to groundwater and surface water are addressed in the Final AEIS in the groundwater and surface water sections in Chapter 4, and in Appendices F and G. While gypsum stacks are outside the scope of the AEIS, as explained in Chapter 1, there is a discussion of these in Section 1.3.1. |
| 000000360-1 | Molly Leslie | Private Citizen | My comment is short and to the point, I dont think you should allow phosphate mining so close to The Horse Creek, Peace River and Charlotte Harbor, we are in a water crises and if it's allowed more mining we will have less water and possiblly dirty water. STOP THE PHOSPHATE MINING - In DeSoto County..Molly E. Leslie | The analyses on impacts to groundwater and surface water are addressed in the Final AEIS in the groundwater and surface water sections in Chapter 4, and in Appendices F and G. |
| 000000376-1 | Polk County Bock, Amee Bailey | County Government | In recent years the phosphate industry's impact on the Polk County economy has been in decline and is anticipated to continue to decline as phosphate mining moves south into Hardee and DeSoto Counties. Although some chemical manufacturing plants will continue operation in Polk County, the County recognizes that this area is transitioning . Significant planning is needed to support the transition, therefore, the County began the Bone Valley Selected Area Study (SAS) for Polk County.The Existing Conditions Analysis provides a preliminary overview or snapshot of the study area..... (This doccument is attached.)The priority for 2012 was completing the second phase of a Selected Area Study, which is visioning. A vision gives direction and assists the County and the community in understanding what will be accomplished through this study process. During this phase, the Focus Group developed vision components, which focused on: Community Development, Industry Emphasis, and Creating Conservation Cores and Corridors. These components were combined with the concepts identified in the Guiding Principles to create the initial vision plan and focus for implementation.... (This doccument is attached.)The final stage of the SAS process is implementation. Ultimately, the efforts of the focus group, staff, and the community may result in a Selected Area Plan (SAP). ...New land use plans and quality growth strategies will guide development in southwest portion of Polk County for years to come. You can | Comment acknowledged. |

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| | | | find additional information in the document along with the referenced data sources. Please visit the Countys website on the web at www.polk-county.net/projects and then select the link for the Bone Valley Selected Area Study. There you can link to the Existing Conditions Analysis document, the virtual tour, Visioning Brochure, and other study materials. | |
| 000000378-1a | Winchester Environmental Associates, Inc., Brian Winchester | Company | WEA COMMENT 1: The USACE is responsible to ensure that the contents of the AEIS are adequate, technically accurate, and free of bias. With regard to EISs prepared by third-party contractors, USACE Regulatory Guidance Letter No 5-8 states that: The district is responsible for ensuring that the information provided by the contractor is consistent with Corps statutory requirements to take a hard, objective look at the public interest and environmental factors. The district will also take full responsibility for the scope and contents of the EIS, directing the contractor as necessary to make certain that its work acceptable. The district will regularly participate in the preparation of the document and independently evaluate the information to ensure that it is technically adequate and not biased. The district has the final determination whether the data provided is adequate and accurate [emphasis added]. In a memorandum dated 7 December 1997 and entitled Guidance on Environmental Impact Statement Preparation similar instructions were given to the districts: The Corps is responsible for review and acceptance of required information, data, or drafts and must be especially vigilant in identifying and eliminating any bias that could exist in a draft National Environmental Policy Act document prepared by a contractor selected and supervised by the applicant. The District Engineer (Corps Regulatory Branch) has the final determination for EISs prepared by the applicant and his/her consultant of whether the data provided is adequate and accurate. The Corps will carefully review the applicants drafts to ensure they are technically adequate and not biased [emphasis added]. With regard to the AEIS, the relevance of these guidance documents from higher up the USACE chain-of-command is as follows: 1. The USACE has full and final responsibility for the scope, contents, and findings of the AEIS, and that responsibility is neither shared with nor can be passed off to the AEIS preparer (CH2M HILL) or to current project applicants (Mosaic and CF | Comment Acknowledged. |

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| | | | Industries). 2. The USACE is specifically charged to be vigilant in identifying and eliminating any bias. Accordingly, the tone and content of the AEIS should be neutral and even-handed, presenting and discussing the facts and issues objectively without being inherently pro-mining or anti-mining. This means that all known significant environmental problems and impacts associated with the mining/reclamation process should be identified, critically evaluated, and discussed in the AEIS. It is not acceptable to omit the discussion of known major issues or to trivialize their significance by not fully presenting the relevant facts. It goes without saying that where the phosphate industry has developed successful approaches to addressing environmental issues, and where these approaches have been tested and shown to be reliable, such successes should also be fully presented and discussed in the AEIS. 3. The USACE is responsible to ensure that the content of the AEIS is adequate. It is not acceptable to issue a draft AEIS when information critical to the thorough evaluation of environmental impacts still has not been provided to the USACE. In such cases the USACE should issue requests for additional information to the applicants and then postpone the release of the draft AEIS until such information has been received and reviewed. To knowingly issue an AEIS that is based on significantly incomplete and inadequate information subverts the NEPA process even while it gives the public impression that NEPA is being complied with. 4. The USACE is responsible to ensure that the technical content of the AEIS is accurate. It is understood that the USACE cannot verify the accuracy of every data element provided by the applicants. | |
| 000000385-1 | Jono Miller | Private Citizen | Instead I find Ive been reviewing a document that, rather than taking a holistic, regional approach, instead devolves into oblique analysis of numerous, fragmented alternative polygons that (possibly aside from access to beneficiation plants) are presumed to have little or no relation to neighboring polygons. | The Final AEIS section on the analysis for potential offsite alternatives has been updated with additional information provided after the Draft AEIS had been published. The analysis of these is a consideration required by NEPA to consider alternatives to those proposed by the applicants. This updated analysis is in Chapter 2 and Appendix B of the Final AEIS. |

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| 000000393-2 | Charlotte Harbor NEP, Lisa B Beever, PhD, AICP | Federal Agency | CHNEP has determined that DAEIS Chapters 1, 4 and 5 are so inadequate as to preclude meaningful analysis and requests that the U.S. Army Corps of Engineers (ACOE) prepare and circulate a revised draft Chapters 1, 4 and 5. | Comment acknowledged. The Final AEIS includes additional information and analyses based on responses from commenter's and additional information provided after the draft was published. These updates are provided in in the document in Chapters 1, 4, and 5. |
| 000000431-546 | Garry Niemeyer | Non-government organization | The National Corn Growers Association (NCGA) appreciates the opportunity to provide comments on the Corps of Engineers' draft Area-wide Environmental Impact Statement (AEIS) on phosphate mining permits in Florida. NCGA is the largest trade association of corn growers in the United States and represents 37,000 dues-paying corn farmers nationwide and the interests of more than 300,000 growers who contribute through corn check-off programs in their states. NCGA is the voice for the corn growers' concerns in national legislative, judicial and regulatory agencies' decisions affecting agriculture. Our members live and farm in 47 states. NCGA appreciates the work of the Corps to use scientifically based analysis to prepare the draft AEIS. Using this approach to the National Environmental Policy Act (NEPA), the Corps can efficiently and effectively address the environmental effects of phosphate mining in a comprehensive manner. This use of NEPA should allow processing of phosphate mining permit applications in a timely and orderly manner, so that domestic phosphate production, needed for fertilizer production, can continue without delays. | Comment acknowledged. |
| 000000542-7 | Percy Angelo | Private Citizen | This mined and unreclaimed acreage captures surface water flows and impacts local climate, wetland function, habitat, and many other important natural resource services. | Comment acknowledged. The Final AEIS includes additional evaluations on each of these topics raised by the commenter. The cumulative impacts in Chapter 4 of the Final AEIS has been expanded. |
| 000000542-60 | Percy Angelo | Private Citizen | Exhibit 6 is an article from the Charlotte County Sun Herald (July 27, 2008) regarding Mosaics pending application for its new water permit. That application, for 76 million gallons per day, was triple the quantity of water the Peace River/Manasota Regional Water Supply authority delivers to its 200,000 customers in its four-county region each day. | Comment acknowledged. Updated information on water resources is provided in the Final AEIS in the surface water and water quality sections of Chapter 4. |
| 000000542-71 | Percy Angelo | Private Citizen | Because of the clearly unrealistic assumptions, there is no actual cumulative analysis of mining groundwater impacts in the DAEIS, but one can get a sense of the issue by taking the impacts of the new mines and adding the so-called no action alternative which identifies existing mine pumping. 4-65 to 69 | Additional analyses an modeling for groundwater resources was completed for the Final AEIS and these analyses and results are provided in the groundwater section of Chapter 4. |

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| | | | and 4-75 to 78. At their point of greatest impact existing mines represent an aquifer drawdown of 6 feet (when rebounded). Ona is 6 feet. Desoto is almost 4 feet. In each case the impact is across much of the CFPD. While the numbers dont precisely overlap, the points of withdrawal are fairly close and a cumulative impact clearly exists, which the DAEIS does not consider. These should have been added to the continuing pumping allowed for South Pasture and Wingate, pumping for Pine Level and Pioneer, and any other mines which will continue to operate due to infill projects and small projects such as Surface Tract. | |
| 000000542-83 | Percy Angelo | Private Citizen | But, even taking the data contained in the AEIS, the mine impacts are significant. Assuming annual average rainfall of 50 in. per year, at 4-232 the DAEIS reports that the impact on Horse Creek from the mines which impact it will be a 16% loss of flow in 2030. This highest level impact will continue for 10 years but significant impacts will continue even through 2060. Wingate East and Pine Level/Keys will result in a decrease of 13 cfs in flow of the Myakka to Charlotte Harbor, or 2%, with impacts, though lessened, continuing after 2060, when it will still be 11 cfs. 4-235. The total decrease to Charlotte Harbor is predicted to be 41 cfs or 2% for several decades. 4-237. (This figure may not include the impacts from South Fort Meade which continues in operation until at least 2036). Without calculation, reference to expert opinion or even real discussion, the DAEIS dismisses the significance of these numbers, including their impact on Charlotte Harbor salinity gradients. But, how can a loss of flow of 16% for well over 10 years time, longer if reclamation is delayed, in one of the largest and most pristine tributaries of the Peace River, not be considered significant and deserving of discussion? There is no analysis anywhere of what the loss of 16% of flow for a decade and more means to a river like Horse Creek. There is no analysis anywhere of what the loss of seasonal flows means for water supplies which must draw from the Myakka and the Peace, or construct additional storage capacity to make up for the DAEIS average flow analysis. And, as noted above, there is no analysis anywhere of the amount of loss from proposed mines in addition to the loss from past and current mining, even though this is the central requirement of a cumulative | Additional analyses an modeling for water resources was completed for the Final AEIS and these analyses and results are provided in the surface water and cumulative impact sections of Chapter 4. |

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| | | | impacts analysis. | |
| 000000542-163 | Percy Angelo | Private Citizen | The Corps has allowed only 60 days for the public to comment on a document of over 1000 pages, covering multiple disciplines. Of necessity our review is limited by the time weve had, but even within that short period we have found obvious discrepancies in areas that should have straightforward data and answers. The following are just some of the examples: The dates of operation of mines, an extremely crucial issue for analysis of cumulative impact, differ from page to page. For example, compare 1-12 with 1-16 to 1-17. Most troubling, the DAEIS discussion of the temporal scope of the AEIS study, found at 4-171, states that it ends in 2060 because that is the date that all mining and reclamation at all of the four studied mines is concluded. That statement, however, is directly contradicted by 1-17, which identifies Ona mining as 30 years, from 2020 to 2050, with 15 years of reclamation beyond that, ending in 2065, not 2060. And of course the Pioneer and Pine Level/Keys mines extend well beyond either 2060 or 2065. Pine Level/Keys mines till 2073, with 8 years of reclamation till 2081. Pioneer mines till 2085, with 8 years of reclamation till 2093. The apparently helpful time chart at 4-173 continues this reclamation period mistake as to Ona, and apparently the other mines as well if the timelines, which are not defined or explained, do not include reclamation periods. | The mining and reclamation period for the four proposed mines are reflected in Table 1-3 of Chapter 1 and in the cumulative impacts section of Chapter 4. The cumulative impacts section also explains the temporal scope for the AEIS and how reasonably foreseeable actions were considered. |
| 000000542-167 | Percy Angelo | Private Citizen | It appears that the AEIS was issued May 21, not because it was ready but because there was a need to meet the deadline set when it was announced. The reason for this accelerated schedule is unclear (unless it is a schedule demanded by the mining companies for their own purposes). The earliest mine covered by the AEIS does not begin operation till 2015. Yet despite what would appear to be plenty of time to prepare an effective and compliant AEIS, the process is being rushed. This rush continues in permitting for the four mines themselves. Despite the fact that in some cases their applications are barebones, and despite the fact that the AEIS on which they must rely cannot become final until at least 2013, the Corps published notice of the applications requiring public comment be received by July 1, 2012, which would require public comment on these applications, without allowing the public to see the final EIS. | The schedules that were set for completion of the Draft and Final AEIS were based on the expected time requirements to most efficiently complete the studies and documentation required by NEPA. The CEQ has consistently sought to complete the process for an open, complete, and timely environmental document, as noted in their Memorandum of March 6, 2012 titled" Improving the Process for Preparing Efficient and Timely Environmental Reviews Under NEPA." As noted in Chapter 1 of the Final AEIS, the public will have an opportunity to review and comment on the Final AEIS as well a Record of Decision/Statement of Findings issued by the USACE before the final decisions are made on the applicants applications. |

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| | | | This would be wholly illegal. The EIS is supposed to inform the public and inform the decisionmaking process. The public must have a right to see the AEIS before making comments, or the process is meaningless. We understand that the comment period has not been extended, but do not understand how the initial timing requirement could have been imposed. | |
| 000000542-168 | Percy Angelo | Private Citizen | Several submitted documents appear to be missing from the Corps files.- We mention above the scoping comments of Brian Winchester which are apparently missing from the Corps AEIS files, even though timely submitted. We have supplied another copy with this letter. Other documents which seem to be missing from the Corps files, even though submitted, are several documents submitted by Dennis Mader of 3PR, including: The Ona Mine Staff Report (Draft) Hardee County Planning and Development (2003) Land-Use Suitability Study/Hardee County/CFRPC (2002) Non-Mechanical Dewatering of Florida Aquifers, Dr. Sydney Bacchus, Geologic Society of America (2006) We request that these documents be included in your AEIS record. We will notify you as we find documents missing in the future. | Comment acknowledged. The documents to which you refer are in the AEIS administrative record. |
| 000000542-169 | Percy Angelo | Private Citizen | U. The AEIS Process Has Been Improper and is Apparently Biased. -Besides the inexplicable exclusions of important issues, discussed above, the AEIS process itself has been improper in its decision to avoid the collection of additional basic data.- We have been told that the instructions given to CH2M Hill were to prepare the DAEIS using only currently available data. Unfortunately the Statement of Work for the efforts of the contractor confirms that understanding. 4.5 Task 5 of the SOW provides that CH2MHill is to rely on existing data, except for specific studies approved by the Corps, which must be performed through special authorization procedures. Ex. 40. We believe that instruction is highly improper. The applicable regulations specifically require that where there is incomplete information essential to a reasonable choice among alternatives, and the cost of obtaining it is not exorbitant' the agency must include the information in the EIS. 40 CFR 1502.22. In addition to the EIS requirements themselves, the Corps Environmental Operating Principles or EOPs commit the Corps to build and share an integrated scientific, economic and social knowledge | The preparation of the AEIS relied on information from a variety of sources, including the public, government agencies, non-governmental agencies, and the applicants. In completion of the Final AEIS, and in response to comments, there have been additional analyses and modeling studies conducted beyond what was provided by available data. These results and analyses are included in the Final AEIS. |

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| | | | base that supports a greater understanding of the environment and impacts of our work.' The obligation to make sure appropriate data is collected is part of the central mission of the Corps. | |
| 000000542-180 | Percy Angelo | Private Citizen | The Corps contractor for the AEIS has a conflict of interest which should bar its preparation of the AEIS-Beyond its errors and omissions noted above, the Corps contractor, CH2MHill, has conflicts of interest which have apparently interfered with a neutral and professional AEIS study. In 2007 the Army outsourced its water and wastewater handling at Fort Campbell Kentucky to CH2MHill, where it produces fluoridated drinking water for the base. One of the mining byproducts is a fluoride compound which is sold for fluoridation of public water supplies. CH2MHill is also the contractor for water utilities in Florida that fluoridate municipal water, or fluoridate wastewater for groundwater injection, again using fluoride products similar to those sold by the mining industry. Further, CH2MHill is a leader in seawater desalination technologies. Desalination is a hot topic in the areas impacted by mining, because of its extraordinary cost (Tampa Bay Water has spent over $300 million to date to build and repair its desalination plant-an amount which does not include very significant operating costs) and because of evidence that it would not be required were it not for the extreme amounts of aquifer pumping allowed to industries such as mining and other users. CH2MHill profits from at least two technologies driven and created by phosphate mining, the need for desalination and the use of cheap fluoride products for its water/wastewater business. These conflicts interfere with a neutral evaluation of the issues and have contributed to the numerous flaws and deficiencies noted in the draft AEIS. | The third-party contractor for the AEIS was selected in accordance with CEQ and Corps regulations and guidance, and executed a disclosure statement indicating that there was no conflict of interest. The Corps regularly participated in the preparation of the document, independently evaluated the information in the document to ensure that it was technically adequate and not biased, had the final determination whether the data provided is adequate and accurate, and takes full responsibility for the scope and contents of the AEIS. |
| 000000542-206 | Percy Angelo | Private Citizen | The Corps Has Permitted Mosaic to Direct the AEIS Process.-Ex. 41, Letter of Mosaic Fertilizer LLC and The Mosaic Company the U.S. Army Corps of Engineers, Attn: Mr. John Fellows, re Notice of Intent to Prepare a Draft Areawide Environmental Impact Statement for the CFPD, April 25, 2011 (via hand delivery). | The AEIS was prepared under the direction of the USACE following appropriate regulations. The USACE regularly participated in the preparation of the document, independently evaluated the information in the document to ensure that it was technically adequate and not biased, had the final determination whether the data provided is adequate and accurate, and takes full responsibility for the scope and contents of the AEIS. Comments provided by the applicants during the scoping process were evaluated equally |

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| | | | | with all other comments received from the public, regulatory agencies, and other stakeholders. |
| 000000547-21 | Intergovern-mental Coordination & Review, Tampa Bay Regional Planning Council, John M Meyer | Regional Agency | The Draft Areawide Environmental Impact Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District addresses the pertinent goals and policies of the Future of The Region - A Strategic Regional Policy Plan for the Tampa Bay Region for the proposed and reasonably foreseeable mines within the Tampa Bay region, except for transportation. The analyses are very similar to those which were conducted for proposed mines as Developments of Regional Impact. | Comment Acknowledged. |

## CF Industries Comments and Responses

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| **NEPA Compliance** | | |
| 56 | The four paragraphs presented on pages 6 and 8 do not fully explain the extent to which Mosaic and CF are regulated. Later chapters remedy this to some extent, but in a piecemeal fashion. | Text has been added to make it clear that mining activities must comply with a variety of state regulations. |
| 59 | Delete "as a result".<br>It should be clarified that the proposed projects will not increase existing annual mining rates. Add: As shown on Table 1-3, the applications pending before the Corps would not result in increased future production rates, but rather would, if issued, result in maintaining the current production rates through 2035 for the applicants. However, Table 1-3 should be reviewed against company data for mine/reclamation expected start/end. See Comment Letter at Section III, Subsection A and at Section IV, Subsection C. See Technical Corrections Table. | The text has been clarified to better explain that new mines will offset production being affected by mine closures. |
| 60 | The overall project purpose for the SPE must consider CF's purpose and goal to extend the life of its South Pasture Mine without an interruption in production at existing average production rates. All of the alternatives examined in the AEIS should be measured against that specific project purpose to determine whether they are reasonable, feasible, or practicable for CF to implement in meeting that purpose. CF requests that Chapter 1 of the FAEIS be revised accordingly. | The overall project purpose, independently defined as required by the USACE, forms the basis for the USACE's evaluation of reasonable alternatives under NEPA. Alternatives considered in the preparation of the Draft and Final AEIS were based on criteria that served to eliminate lands that were not suitable for future mining as well as identify potential areas that may be considered reasonable alternatives to the proposed actions, as required by NEPA. Final reviews during permitting by the USACE will evaluate practicability. |
| 61 | Purpose and Need. CF believes Chapter 1 contains an inaccurate statement of the overall project purpose for the SPE; it fails to recognize the principal purpose of the project, i.e., to extend the life of the South Pasture Mine, which in turn supplies CF's Plant City Complex with the continued necessary raw materials for fertilizer production. (DAEIS Section 1.2.2.3, p. 1-16). The project purpose and need must recognize that construction of a new separation/beneficiation facility would not achieve the overall project purpose of the SPE extension project, as CF's South Pasture separation/beneficiation facility is the newest in the country and the SPE size is not sufficient to justify construction of a new beneficiation plant.<br>CF currently operates the Hardee South Pasture Mine Complex at a nominal average production rate of 3.5 million tons per year. CF's Plant City Fertilizer Complex has an average annual phosphoric acid production rate of 1 million tons per year, which is used to make 2 million tons per year of DAP/MAP. It takes approximately 3.5 tons of phosphate rock to produce 1 ton of phosphoric acid. The footprint of the phosphogypsum stacks for the Plant City Fertilizer Complex is fully permitted for the expected life of the Plant City Complex through 2040 and, as discussed in greater detail below, the impacts to the human environment associated with it (including its phosphogypsum stacks) were fully assessed at the time the Complex was permitted. The SPE, as currently proposed by CF, is expected to meet CF's need for the South Pasture Mine Complex (i.e., Hardee | The statement in the Final AEIS is that the Purpose & Need is to maximize the phosphate rock recovery and maintain the current beneficiation plant production rate. Discussing the fertilizer production plant is not in the scope of the AEIS as noted in Chapter 1. The size of the SPE is in keeping with the description of a mine extension as described in Chapter 2 of the Final AEIS.<br>Comment acknowledged. |

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| | Phosphate Complex) to supply rock to its Plant City Phosphate Complex until 2035. The current Plant City Phosphate Complex phosphogypsum stack plan provides for stacking capacity through the year 2032 through completion of permitted Construction Sequence II and vertical expansion atop the closed phosphogypsum stack. Should additional stacking capacity be required beyond 2032, a third lateral expansion of the existing stack, Construction Sequence III, has already been approved through the Development of Regional Impact (DRI) process that provides for an additional 11 years of stacking at current production rates. The important point is that all wetlands and uplands restoration and creation work has been completed for the stack expansion plan in accordance with Plant City Complex land development approvals and associated permits, including Construction Sequence III. It should be noted that the Plant City Phosphate Complex and phosphogypsum stack are not located in the Peace River watershed. See Attachment F.<br><br>CF recommends that the Corps recognize and adopt an Overall Project Purpose for the SPE, as follows, at lines 29-32 on p. 1-16 of the DAEIS:<br><br>The overall project purpose for the SPE is to extend the operational life of the South Pasture Mine Complex by extracting phosphate ore from the mineral reserves located within a practicable distance from the existing South Pasture beneficiation plant and constructing the associated infrastructure required to extract and process the phosphate ore at the South Pasture separation/beneficiation facilities, recognizing that the ore extracted must be within a practicable distance to the existing South Pasture beneficiation plant. | The state SPE Purpose and Need is included in the Final AEIS but the USACE has provided their own statement as is appropriate under NEPA. |
| **Groundwater** | | |
| **Summary Comments** | | |
| **GW-1** | **Groundwater discharge to surface waters from the SAS, IAS and UFA should be addressed for the future mines. In particular, the changes in discharge and/or recharge resulting from changes in groundwater hydraulic conductivity of the reclaimed areas and CSAs should be summarized.** | **Mining's effects on the various aquifers, and on surface waters as related to the aquifers, is discussed in Chapter 4 and Appendix F.** |
| 100 | The contribution of the intermediate aquifer to streamflow at the proposed Ona, Wingate East and South Pasture Extension mines is negligible. The water levels in the Floridan aquifer are 60 to 70 feet lower and the water levels in the intermediate aquifer are typically 30 to 40 feet lower than the water table in the surficial aquifer. All groundwater outflow to riparian wetland systems at the locations of the four proposed mines (including DeSoto) is from the surficial aquifer system. Increases or decreases in the potentiometric surface of the Floridan aquifer will not have a significant effect on groundwater outflow to surface systems in the vicinity of the four proposed mines. However, an increase in the potentiometric surface resulting from cumulative reductions in withdrawals | Included in summary response above. |

## CF Industries Comments and Responses

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| | will increase surface runoff throughout the Peace River basin. | |
| 102 | We concur that the data demonstrates no reduction in discharge due to changes in hydraulic conductivities due to mining. Hydraulic conductivities in reclaimed lands can be targeted to achieve pre-mining discharge rates.<br>In addition, specific to recharge below CSAs, the water level in a clay settling area may be 4 to 13 feet below the surface of the clay. However, because the clay surface is typically greater than 4 to 13 feet above original grade, the groundwater table in the sedimented clay, as well as in the overburden soils beneath the sedimented clay, are above the pre-mining groundwater table, i.e., there is more downward recharge beneath a clay pond than beneath unmined areas. | Included in summary response above. |
| **GW-2** | **Correct the water use tables and timeframes to include mining schedules and withdrawal quantities and reduction in withdrawals associated with reclaimation.** | **The Applicants fact-checked the water use amounts used for the modeling in the Final AEIS. Updated modeling results are included in Chapter 4 and Appendix F.** |
| 295 | The supporting table associated with this text does not appear to be correct with respect to CF's current permit. See comments to Tables 4-3 and 4-4, below | Included in summary response above. |
| 296 | CF needs to correct the volumes and durations on this table and note the shift from production to reclamation on South Pasture Mine beginning in 2025. | Included in summary response above. |
| 310 | These values appear to be consistent to the CF WUP but inconsistent with Tables 4-3 and 4‑4. | Included in summary response above. |
| **GW-3** | **Add the relative amount of total groundwater withdrawals that is associated with mining. It is our understanding that mining makes up 5% of the total groundwater use in the entire SWFWMD.** | **A similar statement has been added in the text to note that it's about 8% of the SWUCA, and less than 5% for the District.** |
| 125 | To properly frame this issue, the AEIS should present statistics from the SWFMWD report referenced on page 3-141 to document that mining use is now only ~5% of the total. (Therefore, at most, the No-Action Alternative would reduce demand on the aquifer by 5%.); in reality, however, mining rates will not increase over current rates, so mining's 5% demand on the aquifer will be extended, not increased, and will slowly be reduced as mining is phased out. | Included in summary response above. |
| 135 | This sentence is inconsistent with page 3-58, lines 28 through 31. Add conclusion sentence here: However the modeling and data demonstrate no significant effect on FAS or water supply, individually or cumulatively. See p. 3-58, lines 28-31. | Included in summary response above. |

## CF Industries Comments and Responses

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| **Individual Comments** | | |
| 42 | CF generally concurs with the Corps' overall conclusions as to the cumulative potential effects on water resources of the proposed future phosphate mining. However, as explained below, the Corps used certain overly conservative assumptions in its analyses that tend to exaggerate any potential effects, which could lead to a misunderstanding of the true potential impacts of phosphate mining. CF requests that the document better recognize the effects of decades of water conservation and reuse by the phosphate industry and the various BMPs recommended by EPA's Environmental Impact Statement: Central Florida Phosphate Industry (November 1978) to protect downstream water quality and reduce reliance on groundwater for operations. These and other directed actions in the basin, have resulted in a continuing trend of improvement in water quality, aquifer levels, and streamflows over historic conditions. | Additional text has been added in the water resources sections to emphasize the conservative nature of the analysis. |
| 47 | The DAEIS analysis of water resources is overly conservative is based on its overestimation of groundwater pumpage for the proposed projects. This overestimation makes both the groundwater impacts analysis and the surface water impacts analysis in Chapter 4 overly conservative. | Public and agency comments asked for the maximum possible impacts which the USACE agreed were drought years for groundwater and surface water. It has been noted that these are very conservative assumptions. |
| 87 | We concur that this is vitally important. This system was initially implemented as a surface water management practice in response to recommendations in EPA's 1978 AEIS. As set forth in CF's comments on recharge and water quality, they are effective in protecting downstream water quality and off-site/avoided systems. | Comment acknowledged. |
| 105 | CF notes that its mining practices show CF's method to be effective at preventing adverse localized drawdown. See Attachment D for Final Orders and Recommended Orders. | This may be true for CFI but we are looking at the entire industry and there is evidence of SAS drawdown as a result of mining dewatering. |
| 115 | CF concurs and its own SP monitoring data reflects that groundwater meets groundwater standards at the property boundary and are thus not an issue of concern. The AEIS and its administrative record would be strengthened if the USGS analytical results for parameters of concern in the scoping process (e.g., selenium, cadmium, etc.) were specifically addressed. We recommend comparison of data in mined and unmined basins. (See attached Payne Creek report at Attachment H.) | In general, WQ is not impacted but several studies found elevated secondary standards and some metals. Water quality section revised. |
| 116 | The AEIS should compare and contrast what could occur, as well as what has been documented as occurring through monitoring with respect to groundwater quality impacts. | Section on groundwater quality has been updated. |
| 120 | We support this statement. This paragraph is an excellent example of how the AEIS should independently verify and draw conclusions from the literature in order to support the AEIS and permit RODs. The ground and surface water hydrology and quality teams should produce similar conclusions. | Comment acknowledged. |

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| 127 | These paragraphs are excellent examples of conclusory paragraphs that should be added to ground and surface water and hydrology sections. We recommend similar summaries be added throughout Chapters 3 and 4. | Comment acknowledged. |
| 149 | CF agrees that if no further mining were approved in the CFPD, groundwater allocations for mining would be distributed to others. That has historically occurred. | Comment acknowledged. |
| 150 | CF concurs that potential FAS impact will likely be much lower than permitted, given the conservative DAEIS assumption that all amounts under all WUPs would be utilized throughout both mining and reclamation, although water use will significantly decrease during reclamation-only periods. | Average day, drought year, and several years of actual use are captured in the respective tables. |
| 201 | This paragraph should be inserted throughout the AEIS whenever the historical Floridan aquifer drawdown and associated impacts are discussed. | Comment acknowledged. |
| 216 | We concur that a positive change in head will occur in the aquifer as compared to 2010. CF groundwater modeling used to support the WUP supports this as to SPE effects. Net improvements will result.<br>We concur that aquifer levels will increase between now and 2060. | Comment Acknowledged. |
| 217 | CF integrated modeling demonstrates post-reclamation hydrologic improvements at SPE. | Comment acknowledged. |
| **Cumulative Impacts** | | |
| 43 | CF concurs that hydrologic analyses, including hydrologic analyses submitted by CF to support its water use permit and ERP for the SPE, as well as other modeling analyses prepared by Ardaman and Associates, Inc., AMEC, Hydrosystems Associates, Inc., and others, demonstrate a predicted increase in ground water levels over time and cumulatively show no adverse impact as a result of past, present, or proposed phosphate mining. The appendices recognize this, but the DAEIS is not clear. This is not due solely to a reduction in agricultural pumping, but also due to the gradual replacement of mine excavation areas with reclaimed areas. This result occurs in the No Action Alternative as well as implementation of all of the projects as proposed.<br>However, this portion of the DAEIS does not fully reflect Appendix D of the DAEIS or the other analyses noted above, and does not acknowledge that most of the current and future recovery of the Floridan Aquifer System (FAS) is a direct result of the conservation efforts and reductions in water use already achieved by the phosphate industry. Agricultural water use has decreased and is expected to continue to do so due to land use transition; additionally, the Southwest Florida Water Management District's (SWFWMD's) investment in irrigation conservation and alternative water supply projects, SWFWMD's Southern Water Use Caution Area (SWUCA) rules, and cooperative funding programs will result in future | The text has been revised to include the minor, moderate, major impact categories for each environmental and economic impact category. Regarding the FAS, the SWUCA policy is explained more clearly in the text and the past and future recovery of the FAS water levels is one of the main evaluations in the groundwater modeling. Additional text has been added to clarify changes in land use affecting water demand changes. |

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| | reductions through conservation practices of all user groups, not just phosphate mining. The phosphate industry has led other water use sectors in conservation, resulting in a current water usage of 800 to 1,000 gallons per ton of rock produced or a reduction in usage from approximately 3,500 gallons per ton from historic levels (a 75% reduction). | |
| 192 | Detailed 404(b)(1) and public interest analysis must be conducted based on site-specific data at the application level, incorporated into the Administrative Record for the AEIS, and included in the FAEIS. | The AEIS is the NEPA analysis of the four proposed actions. The 404(b)(1) and public interest analyses are separate reviews. The Record of Decision/Statement of Findings for each project will include all three analyses. |
| 195 | This discussion should pull forward the conclusions from the preceding individual analyses (e.g., Sections 4.3 through 4.10), rather than re-introduce all of the potential, individual and cumulative effects that could result. | The cumulative analyses have been modified to clarify this issue in the Final AEIS in Chapter 4. |
| 197 | Section 4.4 documents no net increase in Floridan aquifer withdrawals will be permitted by SWFWMD. So, while the surface of the potentiometric surface may increase or decrease locally to reflect re-allocation of the resource, but an overall decrease in water levels will not result. CF monitoring data, as recognized by DAEIS, shows no significant adverse Floridan or surficial water table lowering. This should be recognized here. | Other data shows SAS impacts in some places so the text has to reflect the industry as a whole, not just CFI. |
| 202 | An assessment of the aquifer recovery under the SWUCA rules should be added. | The modeling scenarios included with and without the agricultural withdrawal reduction anticipate by the SWUCA Recovery Plan for both the No Action alternative and the Applicants preferred alternatives. The difference in results for each represents the impact of the agricultural withdrawal reduction. Discussion is included in Appendix F. |
| 203 | Mining now uses less water than golf courses; since the 1978 AEIS, mining use has decreased by 90%, from 309 MGD to 31 MGD. | Comment acknowledged. |
| 215 | A statement should be added to the end of the first paragraph (which starts on p. 206) that quantifies the reductions in groundwater withdrawals by phosphate mining described earlier in the document in Chapter 3. | Discussions have been expanded to clarify the changes in water use as it related to specific impact discussions in Chapter 4. |
| 331 | This paragraph is inconsistent with the land use projections presented in Appendix E, Figure 15. | The land use projections used in Appendix G and other sections have been updated to reflect change back to agricultural land use. |
| **Economics** | | |
| **Summary Comments** | | |
| **ECON-1** | **A number of CF's comments relate to the jobs and income that they believe would be impacted if the permits for the Applicant proposed mines were not approved and cite findings of other studies relating to the importance of the phosphate mining industry to the regional economy, impacts on related industries, and agricultural production and prices.** | **Comment acknowledged. Additional modeling and analysis has been provided in Chapter 4 and Appendix H to update economic impacts. Other attributes such as compliance with ordinances has been added to the text as approaches that mitigate impacts.** |
| 63 | CF concurs that cessation of mining at the end of the current mine life of the | Included in summary response above. |

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| | South Pasture and other existing mines would have a devastating economic effect. Not only would Hardee County and the region be deprived of jobs, wages, tax revenue and other economic benefits, CF would ultimately be forced to shutter both its mine and its Plant City Complex and port facilities, adversely affecting not only CF's employees, vendors, and contractors, but also CF's stockholders as a publicly traded company. The potential impact on American farmers and consumers must also be considered because, if sufficient phosphate fertilizer is not available domestically at a reasonable price, crop yields could be affected and food prices could subsequently rise. | |
| 64 | For decades, phosphate mining has been a major economic driver of the economy of Central Florida and the surrounding region.[3] As a vital ingredient to a stable domestic food supply, phosphate and the activities required to process and transport this vital mineral reach far beyond the mine site in shaping a significant economic profile for Central Florida. In fact, estimates indicate every job provided by the industry accounts for at least five other positions through impacts on shipping, transportation, and other supporting industries. The future of the phosphate industry, and the regional and statewide economic advantages derived from it, will undoubtedly be impacted by the pending evaluations and determinations by the Corps.<br><br>Based on the DAEIS, the importance of the phosphate mining industry to the local and regional economy is clear – if pending applications are not approved, there will be a "significant decline in output and employment." CF concurs that cessation of mining will have devastating economic impacts. We simply cannot afford to lose such an important base of economic viability. An economic study conducted for the Port of Tampa concluded the phosphate industry is responsible for 67,000 total direct or indirect jobs in the region and an estimated $5.8 billion of total economic impact. This economic engine is critically linked to the continuation of future phosphate mining proposed in the applications considered in the DAEIS and pending before the Corps. See Attachment G.<br><br>As the DAEIS indicates, the economic future of counties impacted by phosphate mining operations will be significantly influenced by the Corps' FAEIS and its permitting decisions. CF requests that the DAEIS be clarified to recognize that, in light of the positive economic effects if the proposed projects go forward and negative effects of the No Action Alternative, the proposed projects will have a positive effect on the human environment. | Included in summary response above. |
| 124 | The geospatial data also documents the four proposed mines will not be developed in populated areas, thereby lessening the potential for significant population exposure to noise, light, and dust.<br><br>Hardee County also has enacted noise, light and dust standards to ameliorate effects on adjacent populations. | Included in summary response above. |

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| **Individual Comments** | | |
| 62 | CF concurs that the economic benefits both of the individual proposed projects and cumulatively to the affected counties and to the region will be substantial. The direct, indirect, and induced economic benefits of CF's South Pasture Mine Extension are set forth in CF's application. See Comment Letter at Section III, Subsection F and Section IV, Subsection I. See also Attachment G. | Comment acknowledged. |
| 65 | See CF South Pasture ACOE Application at Attachment D. CF's application provides that the South Pasture Extension will result in 580 direct/indirect jobs, 1.6 million in tax revenues, and 13 years of mining. | Comment acknowledged. |
| 121 | It is significant to note that Table 3-16 actually shows a wide disparity between the "mining" counties (i.e., Hillsborough, Polk, Hardee, and DeSoto) and the "coastal retirement" communities (i.e., Manatee, Sarasota, Charlotte, and Lee):<br><br>Mining Communities / Retirement Communities<br>People < 5 Yrs. Old: 6.5 – 8.0% / 3.5 - 5.7%<br>People < 18 Yrs. Old: 22.5 – 27.7% / 14.3 – 20.5%<br>People > 65 Yrs Old: 11.8 – 18.0% / 23.3 – 34.1%<br>Median Household Income: $36 – 49K / $45 – 50K<br>% Below Poverty: 14.2 – 26.9% / 10.5 – 12.8%<br><br>A related "environmental justice" comment is to what extent should citizens who live outside the CFPD (at a significantly higher standard of living) influence federal decision-making within the CFPD (where the economy is dependent on mining). | Chapter 3 and Chapter 4 discuss in detail the Environmental Justice conditions and impacts. |
| 122 | The economic benefits that would result from the continued mining in Hardee County will extend to low-income and minority communities. As discussed below, low-income and minority populations in Hardee County would in fact be harmed if mining ceases. CF requests that the FAEIS include this analysis to clearly and affirmatively establish that there are no environmental justice concerns relative to phosphate mining in Hardee County.<br><br>It is CF's position that the proposed projects in Hardee County provide positive and demonstrable economic benefits to existing minority and low-income populations and do not disproportionately burden those communities. The economics data supporting the DAEIS demonstrates this; additional information supporting this conclusion is attached.<br><br>The largest minority employer in Hardee County relies heavily on business from CF. See Attachment I. As Section 4.7 and 4.12 of the DAEIS and Appendix F clearly | Comment acknowledged |

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| | demonstrate, phosphate mining in Hardee County occurs in relatively rural, unpopulated areas. No disadvantaged communities will be displaced by CF mining operations. CF provides higher-paying, more stable jobs than can be provided by the agricultural industry and significantly higher tax revenues for the County and for the State in terms of both mineral severance taxes and property taxes. Additional severance tax revenues are provided to Hardee County based on its status as a Rural Area of Critical Economic Concern (RACEC). These jobs and tax revenues are only available if phosphate extraction occurs.<br><br>In part through revenues from its Hardee Phosphate Complex, CF is able to contribute substantially to charities in the community that serve low-income and minority populations. For example, from 2007-2012, CF employees and the company contributed over $500,000 to the United Way to the benefit of Central Florida organizations. See Attachment I (Environmental Justice). This support can continue with the continuation of mining in the SPE. CF was also recognized in 2011 by the Florida Education Foundation and the Hardee County school system for its "exemplary support of public education" which low income and minority populations depend upon. See Attachment I. CF has a long history of fostering long-term partnerships with small local charities in the Region who provide basic social services, youth sports programs, and economic assistance to minorities and low-income citizens. These contributions and partnerships would not be possible if the No-Action alternative were implemented. Further, CF has a multi-faceted outreach program to the Hardee community. CF hosts regular meetings with a Community Advisory Panel and regular business briefings with local business, civic and community organizations to keep them informed about CF's operations. | |
| 123 | Mine projects achieve environmental justice goals because the projects will benefit, and do not disproportionately impact, minority and low income populations. | Comment acknowledged. |
| 171 | As the modeling of the alternatives demonstrates, all four applications essentially result in continued production at existing rates. Therefore, under the no-action alternative, the economics of the CFPD counties would suffer. | Comment acknowledged. |
| 224a | We support the findings relative to the importance of the industry to jobs and the regional economy. | Comment acknowledged. |
| 290 | Population projections should be updated | Population estimates were updated based on latest information available. |
| 300 | The AEIS also presents mine and release schedules in the economic analyses as well as references to time frames elsewhere…they are inconsistent with CF's application and each other. Recommend reconciliation to one standard timeline for each mine. | Comment noted - differences in mine schedules have been addressed. |

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| 317 | The Table inaccurately presents a favorable economic base case of no new mines for Hardee. In fact, the current economy, with mining, generates the values shown in years 1-10. The contraction in the Hardee County economy of the Hardee "base case" can accurately be calculated by subtracting the years 41-50 from years 1-10 (1,251,400,000 – 59,500,000 = 1,191,900,000 or $119.19 million/year). | The project team does not believe that this analysis is inaccurate. Under both, the Base Case and With Mining Alternatives, the existing mines continue to operate in the first 10 years of the analysis. Many of the proposed mines begin operation in the second decade of the analysis. As a result during the first decade, the economic impacts are due to the existing mines. Under the base case, after the existing mines cease operations, it is only then that we see the effect of no new mines being approved. |
| 318 | SPE job creation looks low, even when netting out Ag employment. If CF employs 187 directly, then their analysis of indirect and induced employment results in a net loss of 11 jobs. | Comment noted. While CF may employ 187 people during the period of operation, the figures presented in the economic analysis are the average annual employment over the 50 year period, and thus are not directly comparable. |
| **Surface Water and Water Resources** | | |
| 3 | The Executive Summary of the FAEIS (as well as the subsequent chapters and appendices) should include concise summaries regarding each issue of concern based on the data and comparative analyses drawn from the subsequent chapters regarding the direct, indirect and cumulative environmental consequences of each resource category. The discussion in the subsequent chapters concerning each resource is too segmented to be easily comprehended by the lay public (e.g., wetlands impacts are discussed in Chapters 3, 4, and 5). This is particularly true relative to cumulative impacts. For example, the Executive Summary should be revised to make clear that, relative to impacts on downstream water users and downstream hydrology, streamflows and baseflows contributing flow to Horse Creek, Peace River, or Charlotte Harbor are improving over historic conditions and will continue to improve relative to phosphate mining, even if all of the proposed and reasonably anticipated future mine projects are approved. | The Executive Summary of the Final AEIS is written in accordance with CEQ and other federal regulations. The determinations of degree of effect and significance of direct and indirect effects, and of magnitude and significance of cumulative effects, are provided in the Executive Summary. |
| 44 | The streamflow analyses presented in the DAEIS should be revised to incorporate a more reasonable estimate of surface water capture and use in the mine recirculation system. As noted in the DAEIS, the assumption of 100% capture is a conservative assumption (it over-predicts the potential impacts). However, the fact that an assumption is conservative does not necessarily mean it is reasonable. Assuming more capture than actually proposed for future mining and less capture than actually occurs for current mining results in predicted impacts that are significantly greater than what will actually result from the proposed mining. This is unreasonable because it ignores the contribution to average annual streamflow from both the groundwater outflow from the ditch and berm (recharge) system and the discharges from the mine recirculation system through the permitted National Pollutant Discharge Elimination System (NPDES) outfalls.<br><br>The assumption of 100% capture is unreasonably conservative because none of the proposed projects have sufficient storage capacity to capture and use all of the net rainfall (rainfall minus evapotranspiration minus deep recharge) that is | A reduced capture rate of 50 percent of excess stormwater (i.e., stormwater after evaporation) was analyzed. The 100 percent capture analysis is retained as a bounding condition. |

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| | captured behind their respective ditch and berm systems. As correctly stated in the DAEIS (Appendix E, pg. 23), the ability to capture and use surface water is related to the capacity of the recirculation system to store water. The only storage available in the mine recirculation system is the storage available within unreclaimed mine cuts prior to backfilling and the storage available in clay settling areas before they are filled with sedimented clay. Any water stored in these areas prior to filling will be displaced during filling with either sand or clay. An analysis conducted by Ardaman & Associates, Inc. (Ardaman), of the storage volume available in clay settling areas at any given time indicates that the volume available for water storage (i.e., the volume greater than the volume required for clay settling) is on the order of 5,000 acre-feet.[2] It is not feasible to build additional storage because mined areas are typically not available to construct additional storage. Water storage in the clay settling areas is limited to about 10 feet and a significant percentage of this volume is required to provide the necessary retention time for clay settling. Monthly water budget analyses indicate that a capture percentage in the range of 25 to 35% is a reasonable target for a modern phosphate mine. Although the quantity of groundwater used in the mining process per ton of phosphate rock produced could increase in the future if the relative clay content of the matrix increases, the quantity of surface water used per ton of phosphate rock is not expected to change significantly in the future, because the available storage capacity in the mine recirculation system will not change significantly.<br><br>[2] Surface Water Capture by Current and Proposed Phosphate Mines and Potential Impact to Streamflow, Peace and Myakka River Watersheds, Ardaman & Associates, Inc. (2012)<br><br>The assumption of 100% capture is also contrary to the capture percentage proposed in both the SPE ERP Application and the Mosaic Water Use Permit (WUP) Application. Both applicants maintain accurate records of groundwater withdrawals used in the mining process, daily rainfall, area mined and reclaimed, and measured discharges through permitted NPDES outfalls. The water budgets prepared by both companies for the WUP and ERP applications are verified based on these data. Mosaic has proposed to capture and use approximately 20 to 30 percent, and CF has proposed to capture and use approximately 40 percent of the total streamflow contribution associated with the area separated from the stream systems by the perimeter ditch and berm systems. The data from the NPDES outfalls document that there is not enough storage in the recirculation systems to contain all of the net rainfall, particularly during years with above average rainfall. A significant quantity of net rainfall is used to maintain groundwater outflow through perimeter recharge systems at pre-mining levels. Furthermore, although water conservation practices have improved during the last decade, the design and operation of the perimeter | |

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| | recharge systems have also improved during the same time frame and a greater percentage of the net rainfall captured by the ditch and berm systems now leave the systems as groundwater outflow and is not available for makeup water to the system.<br><br>Accordingly, a reasonably conservative estimate of surface water capture for both current and future mining appears to be much closer to 50% than 100%. It is Ardaman's opinion that the streamflow analyses in the DAEIS would provide significantly better, yet still conservative predictions of present and future surface water quantity impacts, if the more reasonable estimate of 50% capture were used in the analyses. | |
| 45 | The capture area for current mining operations should be considered in the streamflow analyses. In general, the stormwater capture area moves across the mine site as new areas are mined and previously mined areas are reclaimed. These areas generally can be and are reconnected to downstream waters (and stormwater no longer captured) after the area is initially revegetated, so the period of capture is not extensive. The 2010 streamflow data sets represent the cumulative effects of all prior development in the subject watersheds. This data set already includes areas currently being captured behind the ditch and berm systems at all active mines. During the past ten years or more, both applicants have used as much of the captured water as possible as makeup to the recirculation system. This means that future mining, assuming steady-state capture, should not affect streamflow relative to the base year. Only if the capture area changes will a change in streamflow occur. Only the change in capture from the 2010 base year (plus or minus) should be used in the surface water cumulative impact analyses.<br><br>The current capture area within the Peace River basin above Arcadia is approximately 18,000 acres. The rate of reclamation for this capture area has equaled or exceeded the rate of mining since 1994 and will continue to exceed mining. Accordingly, the capture area continues to decrease with the proposed mining through 2045; a cumulative impact analysis based on the assumption of similar capture percentages for existing and proposed mines throughout the period predicts increased streamflow throughout the entire period. The current capture area within the Horse Creek basin above Arcadia is approximately 11,000 acres. With the addition of the Mosaic Wingate East, Ona and Desoto mines and the SPE project, the net area captured in the Horse Creek basin increases to a maximum of approximately 24,000 acres by about 2035. For Horse Creek, the net increase in area captured will result in reduced average annual stream flows relative to the No Action Alternative until 2035, after which average annual streamflow will increase in the basin. Nevertheless, because of predicted changes in other land uses in the basin, including urbanization (addressed in the following paragraph), the results of a cumulative streamflow analysis for both the | Chapter 4 has been updated to better reflect these issues related to capture area and the release of current mined area. |

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| | applicants' Preferred Alternatives and the No Action Alternative indicate increasing average annual stream flows throughout the period between 2012 and 2060. | |
| 46 | The increase in average annual streamflow in the Peace River, Horse Creek and upper Myakka River sub-basins resulting from land use changes in the basin, which is unrelated to surface water capture by mining should be addressed more clearly in the FAEIS. For the No Action Alternative, the surface water analyses contained in the DAEIS predicts increases in the average annual streamflow in the Horse Creek and Peace River drainage basins for the entire period between 2020 and 2060. The average annual streamflow in Horse Creek measured at Arcadia is predicted to increase by approximately 6% (from approximately 200 cfs in 2020 to approximately 212 cfs in 2060, or an increase of about 12 cfs; DAEIS, Appendix E, Table 5, pg. 34). The average annual streamflow in the Peace River measured at Arcadia is predicted to increase by approximately 13% (from approximately 800 cfs in 2020 to approximately 900 cfs in 2060, or an increase of about 100 cfs; DAEIS, Appendix E, Table 5, pg. 34). These increases are projected solely from land use changes, predominantly urbanization, in the basins. | Text was clarified in Chapter 4 and Appendixes G and J to better explain change in flow from 2009 attributed to land use changes. |
| 48 | Actual pumping rates at Florida phosphate mines in the past have been significantly less than the SWFWMD-permitted rates for a variety of reasons. One of the most important reasons is the ability of many of the mines to use recycled water in the flotation cells. For many years, it was believed that flotation would not be as effective if water other than once-through FAS water was used in the flotation cells. This is the main reason why withdrawals are so much less today than in the past. Reuse of this water has resulted in significantly less withdrawals. Another important reason for smaller withdrawals than permitted is that the mining companies permit the withdrawals required during drought periods assuming no stored water is available at the end of the preceding year. The current requested quantities assume a 1-in-5 year drought. Withdrawals during average or above-average rainfall years are significantly smaller than withdrawals during extended drought periods. | Comment acknowledged. |
| 69 | The overwhelming majority of the data show all basins affected by mining to be in compliance with water quality standards. This is confirmed by industry NPDES monitoring data records. CF monitoring data for the South Pasture likewise shows compliance. Any changes in water quality standards that become effective in the future will be incorporated into the NPDES permits that are required for the proposed projects. The DAEIS should recognize, however, that, unlike the directly correlated industry data, some of the studies utilized are based on a small number of sites and samples, and in some cases what those sites exhibit is inconsistent with the more apparent general pattern for some constituents. Attachment I (Water Quality and Biological Evaluation of Payne Creek) has concluded that water quality in Payne Creek, into which all discharges from CF's existing South | Comment acknowledged. More text and analysis of the water quality was added to Appendix D and Chapters 3 and 4. |

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| | Pasture mine flow, is equivalent to or better than water quality in other streams in the region meeting Class III standards. Extensive biological sampling performed for that study indicates the presence of a very healthy invertebrate community (based on the Stream Condition Index), as well as a diverse community of native fishes. The stream has maintained this positive chemical and biological condition as more than 75 percent of its watershed was mined for phosphate, including ongoing mining activities on South Pasture. These data further support the assertion that mining activities, as conducted with modern techniques and appropriate BMPs, do not have significant adverse direct, secondary or cumulative impacts on water quality or stream aquatic resources within phosphate mining watersheds. | |
| 91 | The data and analysis in the AEIS record show that 100% capture is an overly conservative assumption, so on assumption of zero contribution “at times” is not accurate. | Comment acknowledged. and text modified. This issue is primarily addressed in Chapter 4. SPE NPDES discharge data indicates extended periods of no discharge, but more language was included about base flow contribution from ditch and berm systems. |
| 94 | State correctly what MFL’s mean i.e. before additional withdrawals. | Definition of MFL taken from SWFWMD website. This definition states "further withdrawals" so no change is needed. |
| 96 | A 1- to 3-ft thick layer of overburden is no longer used to cover the sand-filled mine cuts. This prior practice is no longer used by either CF or Mosaic. The current practice is to mix a small quantity of overburden into the sand tailings to improve the moisture holding capacity of the surficial soil. The small amount of overburden used does not adversely affect rainfall infiltration.<br>Overburden has never been used to cap clay ponds. The uncapped clay is a highly productive soil, having both high moisture and nutrient holding capacity. With proper drainage, it is an excellent soil for either improved pasture or row crops. It also has a relatively high infiltration rate due to desiccation cracking throughout the upper several feet. Annual surface runoff from reclaimed clay areas is not much different than from typical Florida flatwoods soils. | This section was reworded to be more accurate. |
| 99 | We concur with the conclusion in this report that increasing the area of lands mined will not lead to substantial or quantifiable reductions in flow.<br>Consider supplementing the USGS findings with those of the 1978 EPA Areawide EIS, wherein EPA concluded: (1) phosphate mining historically was augmenting flows in the Peace River by once-through use of groundwater pump and discharge; and (2) use of EPA’s preferred alternative of recirculation would result in flow reduction in the Peace River. | Comment acknowledged.<br>Historic changes in flows were reworded to note the SWFWMD cumulative impacts studies others. Also noted explicitly that in response to concerns, the mining practices changed to use stormwater instead of groundwater. |

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| 104 | The NPDES data for the South Pasture Mine document average annual discharges for the past eight years that are similar in magnitude to what would be expected at these locations prior to mining, i.e., the ditch and berm system does not capture all, or even a large percentage, of the streamflow contribution associated with the capture area. Although peak discharges during storm events are significantly less as a result of surface water capture during storm events, later releases of the captured water maintain average annual discharges near pre-mining discharges. 100% capture as used in AEIS is overly conservative. | Comment acknowledged. Additional explanation is in Appendixes G and J and 50% capture case added. |
| 106 | We concur that CF piezometer data shows no adverse lowering of the surficial aquifer and that site-specific hydrologic data impacts potential for localized dewatering. CF's recharge ditch and berm systems are designed utilizing such site-specific data and modeling, which serves to prevent adverse dewatering. | Comment acknowledged. |
| 107 | Placing portions of an affected mine footprint within the ditch and berm system does not remove this portion of the mine from the contributing area of the watershed. It only prevents potentially-turbid direct surface runoff from entering the adjacent stream system. After clarification in the recirculation system, a significant fraction of the captured water can and will be released, either through NPDES-permitted outfalls or via injection into CF's ARRP. Furthermore, the ditch and berm system also serves as a groundwater recharge system maintaining the groundwater contribution to the adjacent stream system. | Text reworded to note the exception for NPDES discharges and seepage from ditch and berm system. |
| | Mining also changes the water budget from the pre-mining condition in that ET losses will decrease on mined, but unreclaimed, land, thereby increasing the amount of water available for other uses, offset by the discharge of baseflow through the ditch and berm systems. (See Table 3-6 on page 3-79; CF Payne Creek). | Added SPE water budget, added more text related to seepage, and more analysis of ET during active mining (including CSAs and mined but unreclaimed land). See Appendix G. |
| 109 | The AEIS and its administrative record would be strengthened by the addition of a conclusory sub-section that summarizes, compares, and contrasts: (1) the impacts that could potentially occur; (2) the impacts that occurred pre-regulation (circa 1970); and (3) the impacts that have been documented under the current regulatory and industry operational procedures scenario. The summary should address both surface water and groundwater. | Summary conclusions are added to Final AEIS in separate Section. |
| 110 | It should be noted that WBIDs that receive/drain discharge from SP to SPE are not impaired. | Comment accepted. Final AEIS notes that none of the WBIDs around the Applicants' Preferred alternatives were impaired for parameters related to mining. |
| 111 | Why is nitrogen a mining parameter (30-Mile Creek)? | Nitrogen issue addressed in revised text. |

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| 112 | We concur that the overwhelming majority of the data shows all basins affected by mining to be in compliance with water quality standards. CF monitoring data for SP likewise shows compliance. However, it should be noted that the two real problems with the Lewelling Report is that it is (1) based on a small number of sites and samples and (2) what "some" sites exhibit is inconsistent with the more apparent general pattern for some constituents.<br><br>Lewelling Report: Of the constituents listed in the USGS study collected bimonthly samples for ortho-phosphorus (OP) and alkalinity on 4 reclaimed streams and 3 unmined streams with less than 16 samples for each site. Two of the bimonthly reclaimed sites only provided discharge on two occasions. Both were clay settling areas. Therefore, statistical analysis can only really be made for two reclaimed sites. Figure 62 of the USGS report does just that and shows that the median, upper interquartile range, and 1.5x interquartile range values of the two reclaimed sites with more than two samples were all lower than the respective concentration distribution for the three unmined sites for OP. Three of the four samples taken from the two CSA's exhibited values higher than the maxima found in the unmined basins. Therefore, although CH2's statement regarding OP is not false, it would be more true to state that; "Sometimes ditches draining CSA's exhibited higher concentrations of ortho-phosphorus than in unmined streams, while sites reclaimed with overburden or sand tailings typically had lower overall concentrations than the unmined streams." CF's stream reclamation will occur on sand tailings. Furthermore, an FDEP (2007) study (cited by CH2 in another section of the EIS) could also be cited here. "Furthermore, FDEP (2007) in a separate study found no statistically significant difference in total phosphorus concentrations between reclaimed and unmined streams." | The text in the Final AEIS is a brief summary of the conclusions reported by USGS. New interpretations are not included. The FDEP study conclusions were added. |
| 114 | Suggest changing lines 7-11<br><br>From:<br><br>However, if these deliberations reach resolution prior to the completion of this AEIS, further consideration of the alternatives under AEIS review will need to address these new regulatory requirements, and even in advance of administrative resolution, some projections of likely new regulatory requirements and how they may affect future review of proposed new phosphate mining projects is warranted.<br><br>To:<br><br>When deliberations reach resolution and numeric nutrient criteria become effective for Florida, such criteria would need to be considered as part of site-specific regulatory review, particularly with respect to NPDES discharge permitting by FDEP, with oversight from EPA. The phosphate mining industry has been heavily involved during this rulemaking process, and is aware of the effects the | New text has been added to address the current status of the NNC and potential impact to the industry. |

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| | new regulations may have on its operations and compliance. | |
| 118 | As the CHNEP has documented, Charlotte Harbor is in good condition, notwithstanding any historic mining or other anthropogenic impacts to the upstream watershed. A summary of that condition should be added here. | Additional discussion on Charlotte Harbor condition has been added referencing the numerous studies on Charlotte harbor water quality. |
| 136 | CF concurs with this finding. We provide additional information regarding this finding as follows:<br><br>Actual pumping rates at Florida phosphate mines in the past have been significantly less than the permitted rates for a variety of reasons. One of the most important reasons is the ability of many of the mines to use recycled water in the flotation cells. For many years, it was believed that flotation would not be as effective if water other than once-through Floridan water were used in the flotation cells. This was found to be incorrect. This is the main reason why withdrawals are so much less today than in the past. Reuse of this water has resulted in significantly less withdrawals.<br><br>Another important reason for smaller withdrawals than permitted is that the mining companies permit the withdrawals required during drought periods assuming no stored water is available at the end of the preceding year. The current requested quantities assume a 1-in-5 year drought. Withdrawals during normal or above-average rainfall years are significantly smaller than withdrawals during extended drought periods. Thus, the potential withdrawals used in the DAEIS represent the worst-case withdrawal scenario.<br><br>Mines do capture surface water to use as makeup in the recirculation system but the quantity is limited to the available storage. | Comment acknowledged. Additional text about these issues has been added. |
| 138 | Note that the water re-use and surface water capture water management techniques were originally prescribed by EPA in the 1978 AEIS. | This has been noted in the text. |
| 140 | The DAEIS assumption that 100% of the stormwater on the actively mined areas is captured and incorporated into the mine recirculation system is overly conservative. Actual capture will be significantly less than 100%. | The Final AEIS has been changed to note this conservative assumption in Chapter 4 and Appendixes G and J. |
| 151 | None of these sites are reasonable alternative locations for the SP mine extension projects. | The alternative analysis was reevaluated with new data in Chapter 2 and Appendix B. |
| 153 | CF concurs that impacts on streamflows will be minimal. USGS Horse Creek study (Lewelling, R. R. 1997. Hydrologic and Water Quality Conditions in the Horse Creek Basin, October 1992 – February 1995. U.S. Geological Survey Water-Resources Investigations Report 97-4077. Tallahassee, Florida) - site is in headwaters of the overall system with the lowest runoff coefficients of any subbasin in the study. Further, the study shows the Horse Creek basin provides net recharge north of County Road 72 and gains of groundwater levels south to the USGS gauge used to calibrate this model. This statement correctly qualifies the runoff assessment | Comment acknowledged. |

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| | performed and should be expanded to include Horse Creek. | |
| 154 | Similar to the comment on page 4-63, the surface water flow discussion just stops. We recommend addition of conclusion/summary of comparisons of the reasonable project alternatives for SPE. | Additional conclusions were added to address the issue that water delivery yields in Chapter 4. |
| 155 | This paragraph is too vague. CF recommends adding references to studies that demonstrate the conclusion at lines 27-28. | The text was modified and references were added. |
| 156 | CF notes that the development document for the technology-based numerical effluent limitations contained in the NPDES permits analyzed the pollutants addressed here and concluded that pH and suspended solids controls were the only limitations needed to ensure phosphorus, fluoride, and metals water quality standards would be met at the point of discharge. See CF's NPDES monitoring data. | The referenced paragraph was deleted from the No Action discussion. |
| 157 | CF's SP Mine NPDES permit requires periodic monitoring for other parameters (e.g., the annual tailing sample, the five-year complete parameter analysis requirements, and bioassays) to demonstrate that monitoring is conducted to demonstrate conformance with all water quality standards. | Comment acknowledged. The text says that the listed parameters are a subset of the parameters monitored. |
| 158 | The DAEIS here discusses the 5-year averages (as reflected in Tables 4-19 through 4-26). CF concurs with the conclusion, but suggests addressing the ranges and variability in the data. The industry's compliance record for its NPDES permits supports the assertion that water quality is acceptable. | Additional range data are provided in box and whisker plots in Appendix D. |
| 159 | CF has included an analysis of the Payne Creek basin to demonstrate that mining does not cause adverse water quality impacts. | Comment acknowledged. |
| 164 | Should differentiate between Primary and Secondary standards | Clarification added to Chapter 3 and notes were added to Table 4-29 to indicate MCL or SMCL |
| 165 | It should be noted that the pH excursions are indicative of natural conditions in flatwoods soils and that monitoring data presented in Table 4-19 demonstrate mine process water is not the cause of low pH values in groundwater. | Comment acknowledged, but did not see basis for changing text. |
| 166 | Should also note that pH is a Secondary Standard. | Comment accepted and text noted in Chapter 4. |
| 169 | We recommend adding a sentence per reasonable alternative summarizing past, current and future potential impacts (of the reasonable alternatives) to water quality based on Chapter 3 and the Administrative Record. | This section was rewritten and is addressed in Chapter 4, Cumulative Impacts. |
| 185 | Adherence to water use permit conditions will provide adequate protection against direct or indirect hydrologic impacts. CF concurs that terms and conditions in its WUP and adopted Environmental Management Plan (also incorporated into the ERP for SPE) will protect against direct or indirect adverse hydrologic impacts to the surficial aquifer, streamflow, and wetland hydroperiods. Preserved wetland monitoring data at SP demonstrates this, as the DAEIS | Comment acknowledged. Compliance with both WUP and ERP requirements are discussed in Chapter 4. |

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| | recognizes. | |
| 193 | CF agrees that the 2010 data sets represent the cumulative effects of all prior development in the subject watersheds. | Comment acknowledged. |
| 218 | It is overly conservative to assume 100% capture. It is not reasonable to assume that all of the rainfall will be held on-site. The purpose of the recharge system is to maintain groundwater outflow at natural, background levels, which provides baseflow to streams. NPDES discharges can also augment streamflows. | Chapter 4 and Appendixes G and J address this comment. Analysis now includes 50% as well as 100% and notes the conservative nature of the assumptions. |
| 219 | This section could be strengthened by quantifying the flows provided by the respective recharge systems and NPDES discharge outfalls.<br>We agree that impacts on surface water hydrology due to mining are small to barely perceptible and no net cumulative impacts will occur. | The Final AEIS acknowledges that the ditch and berm systems hydrate surrounding wetlands and streams. The team did not have the detailed surficial modeling for all proposed Applicant mines.<br>Comment acknowledged. |
| 220 | This section could be strengthened by quantifying the flows provided by the respective recharge systems and NPDES.<br>We agree mining will not cause cumulative measurable downstream effects; any effects are within the seasonal variability of the systems and are not individually or cumulatively significant. | Additional background data were provided to support the baseflow analysis (Appendix G). Also more text on baseflow estimates from the groundwater assessment has been included.<br>Comment acknowledged. |
| 223 | There are no impaired segments draining to/discharging from SPE. | Comment acknowledged. |
| 224b | We recommend this paragraph be strengthened by reference to other portions of Chapters 3 and 4 relative to water resources. | This section was extensively edited. |
| 280 | Consider superimposing the CFPD on Figure 3-14. Such a map would demonstrate that Charlie Creek is located mostly east of the CFPD and little, if any, phosphate mining is likely to occur there. Figure 2-36 also supports change. | The basis for including Charlie Creek was to illustrate the relationship between this subwatershed and Peace River. |
| 312 | An average annual rainfall of 50 in/year is at the low end of the range for the 30-year average rainfalls that have occurred during the past 100 years. | Additional rainfall data with the entire range reported by SWFWMD is provided in Appendix G. The 50 in/yr is consistent with recent data and the high rainfall periods (e.g., 1960s) should be discounted. No changes to the precipitation used in the surface water analysis were made. |
| 313 | This paragraph should be in the subsequent section. No need to address what phosphate mining involves in the No Action sections. | Comment acknowledged. Paragraph removed from this section. |
| 314 | Table heading says it includes inactive CF mines, but it does not. | Table title was changed |
| 315 | Text refers to the “nearest phosphate mine outfall” but you have to read to the bottom of the paragraph to know what mine it is, and it still doesn’t name the outfall (Fort Green 003). | Reference to Outfall 004 added after "nearest phosphate mine outfall". |
| 316 | Should include the same FDEP SOP reference as in 4/115/20. | Comment accepted and text changed. |

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| 345 | Why are the values provided in the "Outfall" column not the same values shown in Table 4 on pages 13 and 14 for the respective mines? They both purport to be 2005-2010 means, but almost every respective pair of values is different. | Comment acknowledged. Tables were updated. One table lists only values for dates when data were available for all three locations: upstream, downstream, and outfall. |
| **Regulatory Process** | | |
| 66 | Hardee County Mining Overlay Comprehensive Plan amendments and Water Use Permits should be included to help explain the extent of regulations on phosphate companies. | Acknowledged and included within the discussion of the mining overlay - Hardee County, and the Water Use Permit is discussed in the groundwater modeling section in Chapter 4. |
| **Alternative Development Process** | | |
| **Summary Comments** | | |
| **ALT-1** | **Comments focused on a number of reasons why certain polygons, especially D and E, should have been eliminated from the alternatives analysis.** | **Chapter 2 and Appendix B provide information on how the offsite alternatives were identified as reasonable alternatives to be considered in the Final AEIS. Project-level determinations of whether the offsite alternatives are reasonable or practicable will be made in the site-specific ROD/SOFs.** |
| 6 | E.S.5 and SECTION 2.2.4.4: ANALYSIS OF SITES D & E. Subsequent to publication of the DAEIS, further analysis of alternative sites was completed to ensure reasonable and practicable alternatives were available to compare against the SPE application submitted by CF and to independently verify CF's assertion that no such alternatives exist. Consistent with DAEIS Section 3.1.5, the GIS database was queried to identify which of the preliminary offsite polygons shown on DAEIS Figure 2-17 are located within 10 miles of the existing South Pasture beneficiation plant. Sites A through C, F through R, T through DD, and FF through JJ lie entirely beyond the 10-mile radius. Small portions of sites F, S, and EE fall within the 10-mile radius; however, these sites are too small to meet the project purpose; the acreage within each is too small to justify walking a dragline and construction or relocation of mine infrastructure corridors there (see DAEIS pp. 2-23-29). Therefore, alternative sites F, S, and EE are not reasonable or practicable alternatives for the SPE project. In contrast, alternative sites D and E lie mostly within the 10-mile radius; therefore, further review of these sites was conducted by CF.<br><br>Attachment F illustrates that the portions of alternative sites D and E lying within 10 miles of the South Pasture beneficiation plant are mostly subdivided into parcels smaller than 430 acres. As documented in DAEIS Section 2.2.4.4, real estate negotiations that require more than 10 transactions to acquire are generally unsuccessful. Therefore, further review of the property ownership records was conducted to determine whether large blocks of land (at least 40 acres) were controlled by a limited number of owners, such that a portion or portions of sites D and E, if aggregated, could form a reasonable alternative to the SPE site. | Included in summary response above. |

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| 7 | The first factor to consider is local government land use restrictions. Shown (in cross hatching) on Attachment F is the land where mining is prohibited due to its designation in the Hardee County Comprehensive Plan as the Vandolah Rural Center mixed use future land use district. See Objective L.8, Hardee County Comprehensive Plan. Therefore, the land designated as Vandolah Rural Center is not a reasonable alternative to the SPE property. | Included in summary response above. |
| 8 | As shown on Attachment F, several large parcels occur elsewhere within sites D and E, some of which abut CF's property and others that are separated from CF by numerous small parcels. Review of the property appraiser's data identified the largest 10 landowners adjacent to or near CF that own 4,365 acres and the largest 20 nearby landowners control 5,549 acres. These ownership interests range from 717- to 56-acre parcels. As the DAEIS recognizes, connectability of alternate sites to the beneficiation plant is of critical importance (see DAEIS p. 2-29).<br><br>When acquiring property to expand a mine, the most important land to acquire is the abutting property. There are currently five landowners who control approximately 1,535 acres abutting CF property, referred to as the first "tier" and shown in green on Attachment F. Should CF be able to acquire all of this property, another four parties control approximately 615 acres abutting the first "tier" of landowners, which are shown in blue.<br><br>Attachment F illustrates the "tiering" required to acquire the largest parcels within sites D and E. Acquisition of the 5,549 acres controlled by the 20 largest owners would require extending out to the seventh "tier" of owners. Obviously, none of the "tier 2" properties could become mineable unless CF controlled the abutting "tier 1" property, i.e., unless they are "connectable" (see DAEIS p. 2-29).<br><br>Beyond the second tier, one landowner, or a combination of two alternate landowners control access not only to their own property, but all of the "tier 3" properties. Thus, access to any of the "tier 3" properties, would not be possible unless CF was able to successfully conclude the acquisition of one specific "tier 1" and one or two other specific "tier 2" parcels.<br><br>This acquisition scenario differs dramatically from the land acquisition constraints applicable to siting a theoretical new mine elsewhere on land not owned by CF or Mosaic, where two acquisitions from three or four existing landowners could form a single, contiguous 9,000-acre mine site. In the case of the CF SPE, acquisition of land beyond the "tier 2" acres would not be possible unless CF successfully completed transactions with one specific "tier 1" owner, one or two specific "tier 2" owners, and one specific "tier 3" owner.<br><br>In summary, sites D and E do not contain lands that could be reasonably and practicably acquired and developed by CF to supplant more than a small percentage of the reserves available beneath the SPE, because (1) the land needed to form an alternative to the SPE would require CF to purchase land from | Included in summary response above. |

## CF Industries Comments and Responses

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| | two specific landowners without the power of eminent domain; (2) not more than 20 percent of the acreage available in the SPE would be available from other willing sellers; (3) siting of one or more clay setting area(s) would require purchases of specific parcels; and (4) mining costs would be escalated by increased property-line setbacks and circuitous mining infrastructure corridors. Therefore, sites D and E are not reasonable alternatives to the development of SPE. | |
| 9 | In addition to these constraints, CF also would first have to conduct exploratory drilling to confirm these properties contain mineable reserves (see DAEIS p. 2-11). Thus, sites D and E introduce the risk that CF could not develop these lands in time to replace the South Pasture Mine, should these lands have insufficient or poor quality reserves. CF also notes that sites D and E would, at most, represent infill parcels to further extend, rather than to serve in lieu of, the SPE (see DAEIS Section 2.2.4.4). | Included in summary response above. |
| 10 | The reasonableness of alternatives set forth in ES.5 and in Chapters 2 and 4 must consider whether the alternative site is owned by a competitor, as well as whether the alternative is within 10 miles of a company's existing beneficiation facilities for proposed extension projects. Mosaic's Wingate East Extension, Ona Mine, Desoto Mine, Pine Levels/Keys and Pioneer tracts (Alternatives 2 through 4 and 6 through7, respectively) are not reasonable alternatives for CF as alternative locations for its SPE project because: (1) they are already owned by Mosaic and are reasonably expected to be developed as phosphate mines or mine extensions by Mosaic; and (2) with the exception of the Ona Mine, none are within 10 miles of the Hardee Phosphate Complex beneficiation facility. It is not reasonable to consider Mosaic-owned parcels as alternatives to CF's preferred mine location because it is not reasonable to assume that those parcels are available to CF or could reasonably be acquired. Consideration of such an alternative simply does not "make sense" in light of CF's project purpose, as required by the CEQ Guidelines and 33 CFR Part 325, App. B. | Included in summary response above. |
| 76 | Project alternatives that are not proximate to or that would reasonably likely halt, interpose significant delays in, or reduce production at the Hardee Phosphate Complex would not achieve CF's project purpose and are not reasonable alternatives for CF. Only alternatives that are reasonable and feasible for a particular applicant to implement as its proposed project should be compared against the applicant's Preferred Alternative for that project. Further, in assessing and comparing on-site avoidance/minimization alternatives, the Corps in the FAEIS must recognize the extent to which an applicant's Preferred Alternative incorporates appropriate and practicable avoidance and minimization compared to the full extent of the property, particularly when a cooperating agency (FDEP) has already assessed those considerations. In assessing and comparing the environmental consequences of both on- and off-site alternatives, the Corps in | Included in summary response above. |

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| | the FAEIS should assess comparative ecological connectivity benefits of the practicable alternatives, but this analysis cannot stop simply with a comparison of wetlands mined or avoided. CF requests that the FAEIS recognize the industry's substantial experience and success in restoring site conditions to historic (as opposed to pre-mining) conditions in a manner that meets regional conservation goals, as well as CF's specific proposal to restore historic ecological and hydrological conditions on the SPE. Alternatives that do not afford a similar opportunity for regional restoration should be discounted accordingly.<br><br>Relative to the implementation of specified acreage buffers (or geographical exclusions) as part of the on-site alternatives analysis, CF does not agree that arbitrarily assigned buffer distances are reasonable or necessary to protect the wetlands or surface waters regulated under the Clean Water Act. Any consideration of buffers must have a reasonable and quantifiable scientific basis and be reasonable in terms of benefits achieved by their implementation. This is particularly true in light of certain key facts: (1) implementation of buffers would generally require the Corps to attempt to implement a prohibition on mining in uplands, notwithstanding the limitations on Corps jurisdiction under the Clean Water Act; (2) implementation of buffers would have a significant adverse impact on mineral recovery without a significant environmental benefit; and (3) application of the buffers would essentially result in the "No Action" alternatives, which is already addressed in the document. Any buffer application or determination must be made on a site-specific basis; the evidence demonstrates that construction of a purpose-designed recharge and berm system between all avoided areas and mine areas, along with other site-specific Best Management Practices (BMPs), are effective in preventing adverse impacts in the avoided areas. The buffers suggested by scoping comments have already been sufficiently evaluated in the DAEIS; they are clearly unreasonable and do not need to be further analyzed in the FAEIS. | |
| **Individual Comments** | | |
| 15 | The evidence suggests (and CF's SPE Corps Application data confirms) that, in many instances, on-site wetland and stream systems and their adjacent uplands have been adversely impacted by conversion to agricultural use (pastures, cattle, row crops, ditches). | Comment acknowledged, and noted in text. |
| 21 | In addition, the buffers suggested, as well as several of the alternative mine-footprints, are neither reasonable nor feasible to implement on the SPE based upon the amount of potentially mineable land they clearly preempt.<br><br>It is very important to recognized that CF's Preferred Alternative already represents substantial aquatic resource avoidance based on the actual condition and function of the system to be protected, as well as technical and logistical feasibility issues such as dragline maneuverability, stream and wetland crossings, | The negotiations at the State level for mitigation and avoidance are not reflected in this analysis. The process is a separate evaluation of the mining process and associated direct and cumulative impacts. |

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| | infrastructure requirements, and clay settling area requirements. The FDEP has already required mine footprint reduction at the state level on these bases, which necessitated a loss of reserves. See Attachment D (FDEP approvals; SPE Application at Environmental Narrative).<br><br>Specifically, CF requests that the percentage of the SPE mine site that would be preempted by the DAEIS alternatives be clarified as follows: CF's Preferred Alternative already represents permanent and protected avoidance of over 1,000 acres of wetlands, streams, and native habitats on-site, and an associated loss of mineral reserves beneath those acres. CF's Preferred Alternative represents mining and reclamation of 6,418.2 acres of the total site but this is not the entirety of the mine site—or mine reserves—on the property. Thus, references in Tables ES-5 through ES-11 and Tables 4-55 through 4-61 to the SPE mine site as comprising 6,418 acres is inaccurate Preferred Alternative. Rather than CF's Preferred Alternative representing 100% recovery of potential available reserves, as implied by the DAEIS, 6,418 acres actually represents only 83% of the land area of the SPE (i.e., a loss of 27% of potential reserves), and actual acres to be mined is significantly less than that. That figure reflects areas that are necessarily disturbed but not mined as a result of project logistics such as dragline maneuverability, wetland crossings, and perimeter berm requirements.[1] Project logistics completely preclude mining small isolated areas, such that avoidance of the areas as suggested in the DAEIS on-site alternatives would necessitate far greater reserve losses than those directly underlying the avoidance area and would preempt even more land than is reflected in the table. Most of the mine alternatives presented, given the expansive buffers, essentially results in a "No Action" mine footprint in light of the actual areas to be avoided, the buffer, and the additional land area preempted by project logistics. Even without taking such project logistics into account, a straight calculation of reserves lost based on the avoided acres plus the buffers should reflect the actual percentage of the total project site, not simply the Preferred Alternative mine footprint, i.e., it must recognize the 1,096 acres already avoided by CF's Preferred Alternative. The DAEIS comparisons of potential reserve recovery should be adjusted accordingly. However, it is important to note that each acre does not yield the same quality, quantity or thickness of reserves. Likewise, each on-site alternative creates site-specific issues with respect to logistics and feasibility, i.e., whether draglines and infrastructure can be accommodated by a particular mine footprint. As a general rule, mining around uneven landforms such as wetlands and streams requires additional avoidance simply based on the size and maneuverability of the dragline. See Attachment D, SPE Application, Environmental Narrative. | |

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| 28 | On-Site Alternatives Tables. CF requests that the DAEIS On-Site Alternatives tables be revised to reflect a comparison, on a project by project basis, of (1) the total acres of the project site; (2) the Preferred Alternative mine footprint acres; (3) the other on-site alternatives mine footprint acres; and (4) the additional acres disturbed but not mined for ditch and berm systems. Percentages of reserves preempted, as well as a percentage of additional acreages likely preempted by mining logistics (using the DAEIS assumptions, for ease of comparison, but with the appropriate caveats) under each alternative should be included in the tables. | The onsite analysis has been modified in the Final AEIS is now incorporated into a conceptual mitigation framework that will be used by the USACE during permit review after the Final AEIS has been published. This discussion is in Chapter 5 of the Final AEIS. |
| 34 | "The alternatives must either be located within 10 miles of an existing beneficiation plant that would be able to process the materials excavated at the alternative mine, or a new beneficiation plant would be required as an element of the alternative." Offsite alternatives analysis for the majority of the off-site alternatives are not reasonable or feasible for CF to extend the life of its existing beneficiation facility. | Project-level determinations of whether the offsite alternatives are reasonable or practicable will be made in the site-specific ROD/SOFs. |
| 52 | It is important to recognize, as the DAEIS does here, that CF's proposed mitigation includes both acre-for-acre, type-for-type, type-for-type reclamation plus additional mitigation. It should be recognized that substantial preservation of both avoided and mitigation areas is also part of CF's mitigation plan. See Comment Letter at Section III, Subsection B and Subsection H, Section IV, Subsection F and Subsection K.<br><br>CF understands and appreciates the regional data review undertaken in the DAEIS, which provided a necessary and helpful way to describe the affected environment and frame the environmental consequences. However, as noted above, project-specific alternatives assessment of environmental consequences must occur at the project level, in light of the specific project purpose of each proposal. CF supports an approach that conducts additional detailed project level analysis and assessment of reasonable NEPA alternatives for the SPE, as well the required 404(b)(1) and public interest assessments, with incorporation and reference to data and information from that site-specific process into the comparative alternatives assessment included in the FAEIS as needed. | It is acknowledged within the Final AEIS that the State reclamation rules (62C-16.0051 FAC) are required to be followed for each active phosphate mine.<br><br>Acknowledged - Project-level determinations of whether the offsite alternatives are reasonable or practicable will be made in the site-specific ROD/SOFs. |
| 71 | CF concurs that the full discussion of the comparative environmental consequences of each alternative requires site-specific assessment of the effects of each alternative on CF in terms of reasonableness, feasibility and practicability. The DAEIS does not address reasonableness, feasibility, or practicability of the alternatives identified or comparatively assesses the environmental consequences of each. It is recognized that this will be undertaken in the 404(b)(1) analysis conducted in the context of each permit application, which will satisfy that requirement for NEPA purposes as well.<br><br>As noted in the Comment Letter, however, it must be recognized that comparison of the relative merits of off-site alternatives for CF must recognize CF's purpose to | Acknowledged - Project-level determinations of whether the offsite alternatives are reasonable or practicable will be made in the site-specific ROD/SOFs. This analysis will be reviewed in the Record of Decision or in the individual mine permitting process. |

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| | extend the life of its existing operations and utilize existing beneficiation facilities, which limits the applicability of off-site alternatives to relatively large, contiguous parcels located within a 10-mile radius of the beneficiation plant. | Comment acknowledged. However, there was an assumption included in the analysis that the alternatives could support the construction of at least a small beneficiation plant if selected and permitted. |
| 75 | It is our understanding that to be conservative, the "No Mine" Alternative weighed the pending applications against an assumption that no mine activity at all would go forward at the 4 proposed sites, even though it is recognized that the Corps has no jurisdiction over "upland-only" alternatives. Also, it should be made clear that identified in-fill parcels will not constitute reasonable alternatives to the proposed projects. Further, it is our understanding that the items in **bold underline** on this table will be compared based on application-level feasibility and environmental information and conclusions contained in the FAEIS. CF notes that Mosaic's Preferred Alternatives for its projects are not reasonable alternatives for CF to implement to accomplish its South Pasture Mine Extension project. The alternative to avoid the use of phosphate fertilizers is inconsistent with the USGS conclusion that there is no alternative to the use of fertilizers (page 1-15, lines 6-23). Therefore, we agree that this alternative is not reasonable. We agree that other methods of mining, such as dredge, are not reasonable. CF has no dredge equipment. | The No Action Alternative includes the assumption that mining could be conducted in upland in case of a permit denial. The No Action Alternative does not consider in-fill parcels as this would be new permitting. The analysis of alternatives does consider each of the Applicants Preferred alternatives as independent mines but acknowledges that those proposed by Mosaic would not reasonably be available to CF Industries as alternatives. |
| 77 | It should be clarified that while 600 contiguous, relatively compact acres might be an appropriate threshold for in-fill parcels, it is not a reasonable alternative for CF's extension project, as 600 acres constitutes approximately 7% of the size of the South Pasture Extension parcel, and it is generally recognized that 15-25% of any given parcel cannot be mined due to buffers, etc. | The 600 acres parcel size was used to evaluate available land for mining alternatives. The minimum size considered for inclusion is 8,100 acres, composed of various 600 acre size parcels meeting the screening criteria. |
| 79 | With respect to CF South Pasture Extension, it must be recognized that only properties within a practicable pumping distance (10 miles) of CF's existing beneficiation plant would potentially be reasonable alternatives for CF's extension project. See also Comment on 3.1.5. | The 10 mile pumping distance to the beneficiation plant, radially, for the dragline has been recognized as a general limitation and has been used in the evaluation of the alternative parcels, such as final alternatives W-2 and A-2. |
| 259 | Alternative 5 – Land Area to be Disturbed<br>Discrepancy with number in tables on pp. 18-20 (6,418 v. 6,214 acres). | All tables were reviewed for consistency. |

## CF Industries Comments and Responses

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| **Mitigation** | | |
| **Summary Comments** | | |
| **MIT-1** | **Commenters noted that existing requirements for reclamation and avoidance combined with past history on the success of BMPs and avoidance protocols are sufficient to meet the environmental expectations to avoid and minimize impacts to natural resources. Commenters anticipate that the proposed projects will not cause significant impacts to the natural environment.** | **The analysis of ecological impacts in the Final AEIS takes into consideration the reclamation and mitigation that would be conducted to offset loss of habitat and recognizes that current approaches are watershed-based and designed to increase habitat connectivity. The proposed mitigation framework developed for the Final AEIS identifies priority-based avoidance criteria and indicates that permit review will determine the extent of avoidance that is practicable under the Section 404(b)(1) Guidelines.** |
| 39 | If damaged systems are simply avoided, the economic and human nutrition benefits associated with the mining and extraction of phosphate rock (see above) would not occur, and the environmental benefits associated with restoration of damaged systems would also not occur (see above; see also Attachment D (CF Application; CF ERP). Thus, as set forth below, the focus of avoidance efforts needs to be site-specific and must focus on the function and quality of the specific wetland or surface water at issue; these decisions cannot reasonably be made with reference only to regional data.<br><br>The ability of the phosphate industry to restore wetland and surface waters to equal or improved ecological function and condition following mining and to create post-reclamation native landscapes that achieve state and local habitat creation/corridor goals should part of the Environmental Consequences analysis—any comparison of on-site alternatives is incomplete without consideration of the post-reclamation/post-preservation landscape. It should further be recognized that simple avoidance of certain types of systems (e.g., all streams and their floodplains, all forested wetlands, etc.) would often leave those systems impacted by ditches and drainage features, fragmented, and surrounded by altered habitat such as improved pasture. | Included in summary response above. |
| 128 | CF believes that the data and analysis submitted to and developed by the Corps and CH2M-Hill, Inc. (AEIS Contractor) and presented in the DAEIS show that the pending projects, as proposed by the applicants, do not appear reasonably likely to cause unmitigated adverse impacts to the environment or to the public, either directly, indirectly, secondarily, or cumulatively, in light of past, present, and reasonably foreseeable future activities in the region. Reclamation and ecosystem restoration, enhancement, and creation efforts have been demonstrated to be effective at improving wildlife habitat and connectivity and to contribute to watershed-scale restoration efforts that have proven to maintain or improve the physical, chemical, and biological functions of connected waters of the U.S. Creation and preservation of riparian corridors and integrated upland and wetland habitat nodes consistent with the Integrated Habitat Network improves and expands wildlife habitat and ecosystem functions. The DAEIS and supporting | Included in summary response above. |

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| | records demonstrate that there are no unmitigated individual or cumulative adverse effects on water resources, ecological resources, recreation, environmental justice, cultural resources, or public health resulting from mining activities, and reclamation provides a variety of sustainable uses of land post-mining. However, as noted above, the discussion of the analyses in the DAEIS should be strengthened and better summarized in each chapter, but most notably in the Executive Summary and Chapter 4. CF suggests that, as it relates to the SPE, the DAEIS should recognize that the scientific data and analyses necessary to make those comparisons regarding alternatives reasonable for CF's project purpose have already been submitted in the administrative record for the SPE Application and should be included in the Administrative Record of the AEIS (see Attachment D); the required alternatives assessment therefore can be conducted with the CF data already in the Administrative Record. Again, it should be remembered that the FDEP Bureau of Mining & Minerals Regulation, a cooperating agency, has already conducted its own very thorough assessment of water resources impacts, and that assessment has been affirmed both by a state administrative law judge and the head of the FDEP. See Attachment D. The Corps should strive to eliminate duplication with FDEP review and focus on criteria that are different from or additional to State criteria. | |
| **MIT-2** | **The commenters noted that the industry proposed mitigation includes acre for acre replacement with additional mitigation beyond that to meet a successful mitigation plan. Studies have shown that compensatory mitigation along with avoidance and minimization offsets cumulative impacts and would suggest that the final AEIS recognize the substantial avoidance and mitigation as part of the reclamation plan for its preferred alternative.** | **The Final AEIS discusses that mitigation would be required to offset lost system acreage and function in accordance with the Compensatory Mitigation Rule. Chapter 5 discusses the general avoidance proposed and indicates that the details of avoidance, minimization, and compensatory mitigation will be analyzed in the project-specific ROD/SOFs per the 404(b)(1) Guidelines and Compensatory Mitigation Rule.** |
| 51 | It is important to recognize, as the DAEIS does here, that CF's proposed mitigation includes both acre-for-acre, type-for-type replacement plus additional mitigation. It should be recognized that substantial preservation of both avoided and mitigation areas is also part of CF's mitigation plan. See Comment Letter at Section III, Subsection B and Subsection H, Section IV, Subsection F and Subsection K. | Included in summary response above. |
| 228 | In 2003 the Florida Legislature mandated a study of the cumulative effects on landforms and hydrology primarily due to mining, agriculture, and urbanization in the Peace River basin. The results of this study were used to prepare a management plan for the Peace River basin to minimize existing and potential future adverse cumulative impacts to the resources of the basin. The DAEIS considered key factors in the cumulative effects evaluation including the Peace River Cumulative Impact Study (PRCIS) results. Based on this evaluation provided in Section 4.12.1.5 of the DAEIS, the cumulative impacts from the currently proposed projects, as well as reasonably foreseeable mines, are reasonably expected to be insignificant. Industry-implemented onsite compensatory | Included in summary response above. |

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| | mitigation, in conjunction with avoidance and minimization of wetland impact, allows for the preservation, restoration, enhancement, and creation of onsite resources integral to the local watershed, which offsets cumulative effects. In addition, CF's Preferred Alternative aids in the recovery from some of the historic resource losses documented in Chapter 2 (through the addition of wetland acreage and stream length back to the basin) and adds protection to several un-impacted riparian areas, in perpetuity.<br><br>The FAEIS should better recognize the exhaustive and extensive avoidance/mitigation/ reclamation plan submitted by CF as its Preferred Alternative; the reclamation/mitigation proposed by the applicant will achieve greater regional ecological benefits than simply avoiding and buffering all resources of a certain type. See FDEP Final Order and Proposed Recommended Order CF SPE ACOE Application, Excerpts (Attachment D). Thus, as noted above, alternatives assessments should be based on the ability to achieve regional ecological benefits based on an evaluation of the actual quality and function of the wetlands or surface waters at issue once the permit-required and Corps-enforceable mitigation has been implemented; that is a basic premise of NEPA. Requiring avoidance simply based on surface water type or inclusion in a regional dataset can prevent reclamation plans from achieving that regional goal, and this should be recognized in the FAEIS. | |
| **MIT-3** | **Commenters requested that more quantified information be provided on mitigation to be required by mining companies and that additional tables and maps be provided to support alternatives used to evaluate ecological benefits of the proposed mitigation.** | **The cumulative ecological impacts analysis in the Final AEIS in Chapter 4, in conjunction with the discussion of mitigation in Chapter 5, sufficiently discusses the mitigation/reclamation that would be conducted to replace lost system area and function.** |
| 206 | On pages 4-189 and 4-190, the impacts to aquatic resources were quantified, yet here no effort is made to quantify the mitigation completed by mining companies. | Included in summary response above. |
| 207 | The AEIS and administrative record would be strengthened by independently analyzing the post-reclamation land cover maps in the applications and providing statistics, tables, and maps to support these statements. These should be compared to on-site alternatives to assess overall ecological benefits. As discussed, this should be based on site-specific data. | Included in summary response above. |
| **MIT-4** | **Commenters noted that the current programs used by the industry for separating soil layers allows them to be returned in a manner that will promote successful restoration and has been very effective and is adequate to meet the requirements of reclamation and restoration.** | **This topic is addressed in Chapter 5 of the final AEIS.** |
| 186 | In addition to segregating muck and xeric topsoils, native habitat, wetlands and streams at SPE will be constructed on a thick layer of sand tailings, topped with muck, native topsoil or other growing medium to re-establish water table aquifer functions. | This topic is addressed in Chapter 5 of the Final AEIS. |

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| | Industry has demonstrated an ability of reclamation to mimic hydrologic profile of unmined lands/create specific desired soil profiles, good growing medium. CF monitoring and modeling data demonstrate this. | Comment acknowledged. |
| 187 | We concur that restoration of appropriate topography is accomplished via current methods of reclamation. SPE will generally be returned to approximate pre-mining contours, and existing elevations along the avoided corridor. This is CF's current practice for riparian corridors and habitat reclamation on SP and it has proven effective. The same practices will be employed on SPE. | This topic is addressed in Chapter 5 of the Final AEIS. |
| **MIT-5** | **Commenters recommended that additional discussion of the CSA's include the application of specific supplemental materials to encourage their development into wetlands and improved habitat.** | **The detail provided in the referenced section is considered to be sufficient.** |
| 233 | Add the use of additional specific materials beyond tailings, muck, and topsoil. For example, additions such as the clay blanket application we used to create a perched wetland in the southeast corner of DB-5. | Included in summary response above. |
| 235 | CSAs often develop into wetlands near the downstream control structures and that these wetlands do provide benefits to the watershed in terms of hydrology, water quality, and wildlife habitat. Large areas that perform wetland functions exist on virtually all CSAs. | Included in summary response above. |
| **MIT-6** | **Commenters noted that the Draft AEIS incorrectly discussed mitigation planning which has not been approved by the USACE and the suggestion that habitat protection programs will have insignificant impacts. There also was a misstatement about the use of UMAM versus WRAP scores for one of the projects.** | **The referenced text is not included in the Final AEIS. Sections 4 and 5 have been updated to clarify the factors of past events that have been changed and the development of mitigation approaches that, when successful, reduce these impacts to less than significant. The UMAM and WRAP discussion has been clarified.** |
| 53 | This is an incorrect statement as applied to CF. CF has provided a detailed mitigation/reclamation plan as part of its DA Application, although the mitigation plan has not yet been approved by the Corps. | Included in summary response above. |
| 213 | On page 205, the historical loss of habitat was considered substantial and significant and lines 1 and 2 on page 206 reach the same conclusion. Then come eight sentences about various habitat protection and mitigation programs, followed by the conclusion that impacts are expected to be insignificant. We suggest additional analysis and detail be provided based on site-specific information. | Included in summary response above. |
| 332 | Narrative is inaccurate | Included in summary response above. |
| 333 | WRAP – it is UMAM now. | Included in summary response above. |

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| **Individual Comments** | | |
| 36 | CF agrees that the Florida phosphate industry conducts wetland mitigation with large-scale system connectivity and the overall watershed in mind. (See DAEIS, Section 5.3.1., p. 5-2, lines 29-33). The Mitigation Chapter, Chapter 5, should recognize that, while some off-site mitigation opportunities may exist that are practicable for a given project, phosphate companies are actually uniquely qualified and experienced in providing on-site, permittee-responsible mitigation that achieves the goals of the Compensatory Mitigation Rule more effectively than mitigation banking or in-lieu fee mitigation. Phosphate reclamation (both upland and wetland) coupled with avoidance, enhancement and preservation has demonstrably achieved ecological benefits that are regional in scope. While mitigation banks are not an available option. See Attachment E. Further, the FAEIS should recognize the ability of the applicants today to restore wetlands and surface waters in conjunction with reclamation of adjacent uplands as native land covers and permanently protect avoided and restored or enhanced lands through the grant of conservation easements, which protection would not be provided by the No Action alternative. This is a key part of the assessment of the environmental consequences of the various alternatives; those alternatives cannot be properly assessed simply as acres of land avoided without a consideration of the positive consequences achieved in the proposed post-reclamation footprint if the land is mined as proposed. The FAEIS should recognize the role of reclamation in initial mine plan development not only as mitigation, but as an important tool in comparing alternatives. | Chapters 4 and 5 of the Final AEIS discuss the watershed-based mitigation and reclamation currently conducted by the phosphate industry. The discussion of mitigation banks is in Chapter 5. Chapter 5 also analyzes the mechanisms of compensatory mitigation as options available per the Compensatory Mitigation Rule. |
| 37 | It is inaccurate to suggest, as is done in the Executive Summary, that a cumulative impact to wetlands and streams will result from mining the proposed and reasonably likely future mine sites if they are not avoided. DAEIS Section E.S.7.1. First, there has been a demonstrated increase in wetland/stream acreage since 1999 as a result of reclamation. See CF Attachment B (Technical Comments). Similarly, the CF Preferred Alternative results in a 14% increase in wetlands on-site over existing conditions. It must be remembered that, unlike residential urban/commercial development (or even most agricultural uses) phosphate mining does not permanently reduce native habitats nor leave permanent infrastructure in place. In contrast, mining projects must implement both wetland mitigation, (requiring replacement of physical, chemical and biological functions of wetlands and surface waters based on the Uniform Mitigation Assessment Methodology (UMAM) and other qualitative assessment tools), and type-for-type, acre-for-acre, foot-for-foot mandatory reclamation of wetlands and streams on-site (something not required of other land uses). Detailed site-specific analysis prior to construction of the wetland systems and comprehensive monitoring and maintenance afterward assure they will be successful. See comments on Mitigation (Chapter 5) and Attachment E (Reclamation Package); See Attach. D. | The analysis of cumulative ecological impacts in the Final AEIS in Chapter 4 takes into consideration the reclamation and mitigation that is conducted to replace lost system acreage and function. |

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| 38 | CF's ability to restore riparian corridors and provide interconnectivity to PRGI Lands, IHN Lands, or other lands targeted for conservation, must be considered when assessing cumulative impacts associated with mining activities. The ES and Chapters 2 and Chapter 4 should recognize the positive contributions to wetland, floodplain and stream conservation afforded by reclamation and subsequent post-reclamation preservation. As discussed in our comments to Chapter 3, reclaimed wetlands account for much of the increase in wetland acreage documented between 1999 and the present. Further, restoration of systems seriously damaged by ditching and other agricultural impacts can often best be accomplished through reclamation; the large expenditure of funds necessary to accomplish restoration and subsequent maintenance and management of restored systems makes strict environmental restoration projects generally unavailable through public means. See Attachment D (CF SPE) and E (CF Financial Assurances). | The analysis of cumulative ecological impacts in Chapter 4 and Chapter 5 in the Final AEIS takes into consideration the watershed-based reclamation and mitigation that would be conducted for the proposed mines. The final AEIS indicates that the current approach is intended to result in greater habitat connectivity than existing conditions. |
| 40 | As the DAEIS demonstrates, phosphate mining has already reached its peak in terms of acres impacted compared to acres reclaimed, and reclamation is now outpacing mining. Reclamation will continue to outpace mining in the Peace River watershed through 2045, by which date CF's SP and SPE are expected to be fully reclaimed. The FAEIS should make clear that wetland and stream acreage in the Peace River Watershed will increase over time as mining is followed by reclamation in phases across each proposed mine site. That increase will not occur but for the proposed projects. CF submits that the data and analysis in the DAEIS and Administrative Record compel a conclusion that the proposed projects will not have an adverse direct, indirect, or cumulative impact on wetlands or surface waters in the study area if mitigated as proposed. Supplemental information, attached hereto as Attachment E, further supports the Administrative Record in this regard. | The Final AEIS discusses the loss of wetlands/waters on each proposed mine site would be temporary on a time scale that would span the period when the systems are impacted to when the impacts are offset through separate processes of mitigation and reclamation. The AEIS acknowledges that over time the lost systems would be replaced. The impact analysis discusses impacts in terms of quantities and temporal impacts. |
| 41 | CF concurs that recharge ditch and berm systems are effective in protecting avoided and off-site resources from hydrologic and ecological impact. See Comment Letter at Section III, Subsection E and Section IV, Subsection G and above. However, for CF's South Pasture Mine, these have not simply been "pilot studies" but rather actual ongoing operations of the South Pasture Mine, which have demonstrated the ability of CF to protect preserved areas from adverse impacts due to mining. It must also be recognized that, on conclusion of mining and initial revegetation, the ditch and berm system are removed, and no further mining impacts occur if reclamation is implemented as proposed in CF's Preferred Alternative. See also Attachments E and J. | Comment acknowledged. The discussion of ditch and berm systems has been expanded in the Final AEIS in several sections. |

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| 50 | It is inaccurate to assert that there will be cumulative losses of 10,000 acres of jurisdictional wetlands and 260,000 linear feet of streams, because this implies that the impacts will be permanent and not both be offset by mitigation and replaced on-site by reclamation. However, assessment of individual cumulative impacts must take into account permit-mandated mitigation to offset those impacts, and CF's state permit for the South Pasture Extension requires mitigation that will result in an overall increase in both wetland acres and linear feet of streams on-site. The text here should be clarified. | The final AEIS acknowledges that loss of wetlands/waters on each proposed mine site would occur incrementally over the life of each mine and that the losses would be temporary as the systems would be replaced through mitigation and reclamation. |
| 58 | Consider providing the cumulative dollars spent, acres reclaimed, percent of total area mined before 1975, and examples of old lands reclamation (e.g., Oakbridge and others). | The reclamation section in Chapter 5 has been expanded considerably in the final AEIS to address some of these and related topics/issues. |
| 129 | We concur that reclaimed lands provide excellent opportunities for recreation and the creation of public and private recreational areas. In addition, Alafia River State Park, and Hillsborough County's Medard Park both support a variety of recreational activities. | Comment acknowledged. |
| 194 | We agree that phosphate mining impacts must be considered in light of prior impacts in the watershed of concern to properly assess cumulative impacts. The DAEIS analysis appropriately does this; however, by assessing all future mining against a baseline that includes all prior impacts so that true cumulative impacts can be assessed. It shows, however, that the proposed mine projects will not cause further adverse impacts and, in fact, in some instances, will help remediate past impacts. For example, the industry is required to provide at least 1.1 acre/linear foot wetland/stream replacement, but the creation is designed not to restore to the "status quo," but to pre-human alternation condition where possible. Thus, reclamation is being planned and implemented in such a manner as to "undo" past anthropogenic effects. In addition, these lands are, along with no-mine areas, typically placed under preservation, a level of protection that did not exist in Section II, Subsection A in CH2M HILL comment #128. | The cumulative impacts section in the Final AEIS discusses the past practices that have affected habitats on the proposed mines and the watershed-based mitigation/reclamation that is proposed to improve existing habitats. |
| 199 | As noted above, the best option for minimizing potential effects is not creating arbitrary "non-development" zones, but stepwise (1) protecting the highest quality intact systems where practicable; (2) installing ditch and berm around them to protect against dewatering secondary impacts; (3) implementing reclamation that will create broad habitat nodes/corridors. This is a site-specific examination. | These topics are addressed in the Final AEIS. |
| 210 | Properly acknowledges the increase in upland wildlife habitat and points out the reduction in fragmentation that will occur as a result of reclamation/mitigation. However, this section could be strengthened to point out the permanent protection offered to these areas under the proposed conservation easements. See Comment Letter at Section IV, Subsection F and Subsection K and Attachment E. | Chapter 4 of the final AEIS discusses that CF Industries proposes to preserve the avoidance areas on SPE through a conservation easement. |

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| 212 | It should be noted that these positive effects (lack of significant cumulative impacts, reduction in fragmentation, etc.) are a direct result of the permittee-responsible mitigation. Off-site mitigation (mitigation banks, etc.) may weaken on-site efforts and, therefore lead to unacceptable cumulative impacts. This discussion of mitigation hierarchy needs to reflect regional ecological benefits of on-site reclamation. | Mitigation banks and other compensatory mitigation options are discussed in Chapter 5. |
| 214 | Reasonably concludes that the cumulative impacts on aquatic resources and upland habitats are expected to be insignificant. We suggest additional detail be added to strengthen. | The impact analysis in the Final AEIS is based on more well defined magnitudes of effect. |
| 225 | "Creation" of wetlands on mined land is restoration, not establishment, because we are not trying to convert uplands into wetlands, but rather are replacing the former, pre-mining aquatic resources. | Comment acknowledged. However, the terminology in Chapter 5 is intended to be consistent with the Compensatory Mitigation Rule. |
| 226 | CF strongly agrees that the Florida phosphate industry conducts wetland mitigation with large-scale system connectivity and the overall watershed in mind. (Section 5.3.1., p. 5-2, lines 29-30). As Section 3.3.5 in the DAEIS clearly states, much of the wetland acreage proposed to be impacted by mining was previously degraded by other non-mining land uses. In addition, the DAEIS presents fact-based technical information related to the evolution of mitigation techniques within the phosphate industry. The DAEIS also provides a thorough explanation of mitigation components, the different mitigation mechanisms, and an overview of the technology and techniques the mining industry currently utilizes to achieve successful mitigation. However, CF believes that more in-depth discussion in the FAEIS (or Appendix) of the data in the record relative to phosphate industry mitigation, in particular, its efficacy in assuring no net loss of waters of the United States, would strengthen this chapter and allow for a better comparison of the alternatives set forth in Chapter 4. Further, CF believes additional information regarding CF's expertise in effecting on-site mitigation on its mined lands should be included. See Attachment E (Reclamation Package) and the discussion below.<br><br>Chapter 5 (Mitigation) should recognize that the applicants are uniquely qualified to provide on-site, permittee-responsible mitigation that achieves the goals of the Compensatory Mitigation Rule far better than mitigation banking or in-lieu fee mitigation, as further discussed below. | Chapter 5 has been revised based on numerous public and agency comments. It includes discussion of the watershed-based mitigation currently implemented by the industry. It has also been expanded to address avoidance and minimization per the 404(b)(1) Guidelines. The various compensatory mitigation options, including their advantages and disadvantages are discussed. |
| 227 | The Compensatory Mitigation Rule (33 CFR Parts 325 and 332), is designed to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function and to increase the efficiency and predictability of the mitigation project review process. CF acknowledges this fact and provides the following information in support of the phosphate industry permittee-responsible mitigation method as a demonstrated effective way to achieve the goals of mitigation, consistent with the intent of the Compensatory Mitigation Rule.<br><br>Compensatory mitigation is a young science, with the earliest wetland creation | The mechanisms/options under the Compensatory Mitigation Rule are addressed in sufficient detail in the Final AEIS. |

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| | projects being constructed in the mid-1970s. Modern phosphate mine reclamation also began at that time and has been continually evolving as technology improves, associated regulations become more stringent, and the socio-political environment changes (Durbin et. al., 2008). In contrast, mitigation banking did not exist until 1982 and the first entrepreneurial credit sale did not occur until 1994 (Hough and Hall, 2005).<br><br>The industry-standard permittee-responsible onsite mitigation meets the intent of the Compensatory Mitigation Rule. According to the April 2008 Notice published in the Federal Register, this rule "improves the planning, implementation and management of compensatory mitigation projects by emphasizing a watershed approach in selecting compensatory mitigation project locations, requiring measurable, enforceable ecological performance standards and regular monitoring for all types of compensation and specifying the components of a complete compensatory mitigation plan, including assurances of long-term protection of compensation sites, financial assurances, and identification of the parties responsible for specific project tasks."<br><br>The rule emphasizes that the process of selecting a location for compensation sites should be driven by assessments of watershed needs and how specific wetland restoration and protection projects can best address those needs; requires measurable and enforceable ecological performance standards for all types of compensation so that project success can be evaluated; requires regular monitoring to document that compensation sites achieve ecological performance standards; clearly specifies the components of a complete compensation plan based on the principles of aquatic ecosystem science; and emphasizes the use of science-based assessment procedures to evaluate the extent of potential water resource impacts and the success of compensation measures. | |
| 229 | A key component of the overall strategy for maintaining habitat for populations of protected species is the avoidance of mining disturbance in the areas of highest habitat quality. Avoidance of these areas will provide benefits to listed and non-listed species by protecting the best native wildlife and plant habitat and by providing contiguous wildlife corridors. In addition, these areas will also serve as the primary source from which plants and wildlife will re-colonize reclaimed native habitats. Further, reclamation community types that are appropriate for a more intensive, compatible human use are strategically placed within the landscape away from sensitive community types. Phosphate reclamation plans can accomplish this in a manner that other development mitigation plans cannot, given the requirement under state law to reclaim all mined and disturbed land to some beneficial use and to provide on-site acre-for-acre, type-for-type replacement of impacted wetlands and streams and the ability of the applicant to cluster the reclaimed lands in landscape locations that meet multiple local and regional goals. CF has an exemplary record of creating successful mitigation areas | The wildlife and listed species impact analysis in Chapter 4 and the section on wildlife/listed species conservation in Chapter 5 discusses in detail the various protection/conservation measures that would be implemented for wildlife/listed species. |

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| | and believes implementation of this plan at the SPE will likewise be successful. See Attachment E. | |
| 230 | The evolution and improvement of mitigation/reclamation techniques can be generally separated into three categories: Landscape Level considerations, Site-Specific considerations, and Management and Monitoring considerations. These categories were used by Durbin, et. al. (2008) in providing recommendations for continued improvement in the creation of wildlife habitat on reclaimed lands. Many of these recommendations are evident in the pending applications and some have been retroactively implemented on previously issued permits. It is also important to note that many of these recommendations may only be implemented onsite once mining is complete; however, others are offered as "up-front" compensation prior to mining.<br><br>Landscape Level considerations achieved on-site include the permanent protection of thousands of acres through conservation easements. This acreage includes the preservation of high-quality wetlands and upland buffers, as well as enhancing areas within the No Mine Boundary as mitigation provided prior to mining (enhancement and preservation). Wetland impacts are then staggered throughout the mine life, which allows for additional mitigation to occur concurrent with those impacts. Current plans also include the permanent protection (through conservation easements) of unmined lands and additional reclaimed areas after mining to provide additional buffers from future development. The integration of these permanently-protected areas with adjacent reclaimed habitats provides the backbone of the IHN, reducing fragmentation in the post-reclamation landscape.<br><br>One important Site-Specific consideration incorporated into CF's proposed mining and mitigation plans is extensive integrated surface water/groundwater hydrology modeling; as recognized in the DAEIS, CF has been conducting some form of integrated modeling for over 15 years. The MIKE-SHE modeling used to develop the SPE post-reclamation landforms and landscape provides a high level of certainty that post-reclamation water levels within restored, created, enhanced or preserved wetlands will sustain the systems planned. Because of predictive integrated modeling and advanced technology, mitigation hydrology is more consistent in both the preserved and reclaimed areas. If the hydrology is correct, then the appropriate vegetation is readily established and naturally sustaining. Additional site–specific considerations included in the current plan are the use of sand tailings as the base for all wetland construction and direct transfer of native topsoil and/or muck to increase native plant species diversity, as well as tree-spading to increase structural diversity prior to natural recruitment/establishment. This level of detail is rarely offered with other development mitigation plans, and the resources to conduct these complex techniques are not typically available in development or mitigation bank | Comment acknowledged. |

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construction projects. Mining provides the opportunity to implement these types of site-specific practices that are not feasible (or rarely conducted) in a mitigation bank (Brown and Carstenn, 2009). For example, CF has pioneered stream restoration techniques at the South Pasture that have been refined for the SPE; those techniques have been effective at restoring stream functions. CF is aware of no mitigation banks in the state that offer "stream credits." See CF's SPE ACOE Application, Stream Restoration Plan. In addition to the above comparisons, mitigation banks serving the Peace River watershed have insufficient forested and non-forested credits available for the projects and the bank's credits would then be depleted for use by other development for which on-site mitigation is not desirable (e.g., a shopping mall).

Current Wetland Mitigation Bank Credits Available in Service Area*:

| | | | | State Credits | | | | Federal Credits | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Available | Available | To Be Released | To Be Released | Available | Available | To Be Released | To Be Released | | |
| Bank Name | Basin | State Credit Type | Federal Credit Type | Non-Forested | Forested | Non-Forested | Forested | Non-Forested | Forested | Non-Forested | Forested | Wood stork Availability | Future Planned Expansion |
| Boran Ranch | Peace River | UMAM | WRAP | 36.65 | - | 4.38 | - | 13.13 | - | 99.08 | - | Yes | Yes - 2013 |
| Peace River | Peace River | UMAM | UMAM | - | 42.39 | - | 35.86 | - | 23.54 | - | 43.32 | Yes | Yes - 2015 |
| Myakka | Myakka River | UMAM | UMAM | 45.65 | 8.49 | 66.35 | 87.61 | 22.15 | 9.76 | 97.12 | 89.44 | No | No |

*Collected from the SWFWMD WMIS

ERP Database

The most recent developments in Management and Monitoring considerations have also been incorporated into the permittee-responsible onsite mitigation plans proposed by the phosphate industry. For wetlands, mitigation success is measured using established success criteria for several parameters including vegetative community composition and survivorship, hydrology, exotic species abundance, and wildlife usage. The time required to reach mitigation success varies based on the type of wetland targeted and site conditions. Opinions vary regarding the time that created wetlands require to reach full functionality; however non-forested wetlands, such as marshes and wet prairies, reach final successional stages faster than forested wetlands. Kiefer (1991) reported that with good initial establishment and weed control, marshes reclaimed on mined land tended to reach final successional stages relatively quickly, often in less than 5 years. Forested wetlands take longer to mature, primarily due to tree growth, and typically require more weed management and supplemental plantings (Kiefer,

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| | 2011; Brown and Carstenn, 2009). However, these have also been successfully established on mined lands. See Attachment E.<br><br>All of these above variables result in functional systems well prior to final regulatory release. CF has demonstrated a legacy of creating functional systems onsite that adequately meet the compensatory mitigation requirements to offset functional losses, as documented in the DAEIS mention of FDEP's review of released reclamation wetlands. This review was conducted using UMAM, which is a Corps-accepted method of measuring wetland function and calculating mitigation necessary to offset wetland impacts. A similar review of unreleased wetlands created at CF also revealed high functional value while on the positive trend toward release from regulatory responsibility. See Appendix E (Reclamation Package). UMAM is an effective tool in measuring change in function and has been routinely used in Florida to demonstrate the value of permittee-responsible onsite mitigation. It should be noted that the "reported released" acres in the DAEIS fail to recognize that "release" is a regulatory concept that understates the acres of wetlands that have been functionally replaced on mined lands, due to monitoring, vegetation maturation, and CF's practice of seeking release not of individual wetlands but of larger integrated blocks of land where fully functioning wetlands exist, for which release has not been sought. See Attachment E. | |
| 231 | Despite the differences between permittee-responsible onsite mitigation and mitigation banks highlighted in the Compensatory Mitigation Rule, there are several similarities, especially when considering the scale at which the phosphate industry operates, the technical expertise in mitigation science, the planning and permitting required, and the financial assurances provided by the applicants. For instance, the SPE site is large enough to complete mitigation that provides watershed-scale mitigation benefits greater than many banks within the SWFWMD. The mean size of the permitted mitigation banks within the SWFWMD is approximately 397 acres. The mean size of the post-reclamation wetland acreage of the four proposed mines is approximately 3,680 acres and many more acres of uplands and streams would also be proposed. This represents well over a ten-fold difference in total acreage where mitigation would occur, as well as an increase in wetland acreage by a mean of 25.5% (DAEIS Table 5.1 through 5.4). Specifically, as to CF, its SPE Preferred Alternative will result in a 9% increase in on-site wetlands and a 14% increase in on-site streams. The phosphate industry has a history of ever-improving wetland mitigation efforts that date back over two decades prior to mitigation banks and employs the latest scientific and technical methods to achieve functional replacement (as well as acreage) of impacted wetlands. In addition to the greater size by the proposed mines, the expertise held by CF staff and consultants in the hydrology and ecology of wetland creation on mined lands is unparalleled. On-site permittee-responsible mitigation within the industry is conducted on a watershed scale and serves to replace functions of | Comment acknowledged. |

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| | lost wetlands as well as improve functions of areas preserved within the mine. | |
| 232 | CF has taken a watershed-based approach to achieve greater habitat functionality and connectivity. Avoidance of all wetlands/streams and buffering those, often with pasture, would undermine that approach. | Chapter 5 has been revised based on numerous public and agency comments. It includes discussion of the watershed-based mitigation currently implemented by the industry. It has also been expanded to address avoidance and minimization per the 404(b)(1) Guidelines. The various compensatory mitigation options, including their advantages and disadvantages are discussed. |
| 234 | Recharge ditch and berm structural BMPs are left in place until mitigation sites, along with their adjoining upland sub-basins, are planted and trending toward success, protecting downstream water quality while continuing to provide recharge.<br>CF concurs with the statements on this page.<br>Because of predictive integrated modeling and new technology, mitigation hydrology is more consistent. We can provide literature to support this assertion. | Comment acknowledged. |
| 236 | Wetlands mitigation is a relatively young science, with the earliest projects being constructed in the mid-1970s. Reclamation technology represents the cutting edge of wetlands mitigation technology. | Comment acknowledged. |
| 237 | Financial assurance would be held until the created wetland achieves success per state rules. Hardee County also requires a reclamation bond. Attachment E. | This issue is addressed in the Reclamation section of Chapter 5. |
| 238 | Stream Restoration: All stream construction occurs within areas severed from the downstream system by the ditch and berm systems and other BMPs so as to prevent turbidity/sedimentation/habitat smothering until flows in the constructed channels are stable and meet water quality standards. This is a substantial benefit over mitigation banks, which do not offer stream credits. | Comment acknowledged. |
| 239 | Proper acknowledgement of the mitigation efforts of the phosphate industry. However, this section lacks a conclusive statement regarding the similarities between mitigation banks and the permittee-responsible mitigation conducted in the phosphate industry. The type of mitigation provided by the industry meets the intent of the Mitigation Rule. | The discussion of the CMR has been expanded in Chapter 5 of the Final AEIS. |
| 240 | On-site reclamation is required, and the mines generally preserve high-quality intact habitat which is adjacent to reclaimed uplands/wetlands. See Comment Letter at Section III, Subsection H and at Section IV, Subsection F and Subsection K and Attachment E. On-site, permittee responsible mitigation at phosphate mines is large-scale and watershed-based. It helps restore lost connectivity and habitat corridors and provides for permanent preservation of avoided and restored areas. It is thus the functional equivalent of a mitigation bank. | These topics/issues are addressed in Chapter 5. |

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| 241 | The benefits typically provided by mitigation banks, as explained in the 2008 Mitigation Rule, are met by permittee – responsible, on-site mitigation here. | Comment acknowledged. |
| 245 | The discussion of the ERP program should be expanded to discuss the similarities to the 404 permits, the differences, and where the 404 permits will rely upon the state (e.g., 401 certification, bonding, and conservation easement management). CF has provided a complete copy of its ERP for the SPE to demonstrate the thoroughness and detail of the state permit. | The ERP section has been revised per FDEP and public comments. |
| 327 | These acreage losses were updated by FDEP BMMR in 2008 for mined lands. The number decreased to 26,019 acres due to effective reclamation.<br>**SubBasin** / **PRCIS Report** Acres / **FDEP Comparison** Acres<br>Peace at Bartow 290.5 355.9<br>Peace at Zolfo Springs 2,415.10 3,705.90<br>Payne Creek 1,455.70 4,655.40<br>Horse Creek 533 958.6<br>**TOTAL** 4,694.30 9,675.80 | The acreages presented are qualified with a statement that various parties have questioned the accuracy of the data based on the mapping methodology used in the PRCIS study. |
| 328 | It is unclear whose mining and reclamation schedules were used to develop this figure, or which one of the three they developed. | The PRCIS was the data source. |
| 329 | Figure 4-61 is inconsistent with Figure 15 in Appendix E. | Figure 15 in Appendix E of the Final AEIS reflects land use for the Peace River at Arcadia and figures in Chapter 4 of the Final AEIS presents land mined and not reclaimed, which are not comparable. |
| 337 | Revise to more accurately state: "The phosphate industry also develops a Wildlife and Habitat Management Plan for each individual mine, which…". | The Wildlife and Habitat Management Plan is discussed in greater detail in Chapter 4, ecological impact analysis. |
| **Cultural Resources** | | |
| 173 | Provide cross-reference to Section 3.3.7.9. We concur with the Department of State that Section 3.3.7.9 well-documents the cultural resources data. We also agree with the Department that site-specific cultural resource surveys should be used to supplement that information re specific sites. CF has already conducted such a survey for its Preferred Alternative and obtained clearance. | The referenced text is not included in the final AEIS |
| **Community Health, Safety, Quality of Life** | | |
| 126 | These air emissions are regulated nationally by EPA by establishing emissions standards that engine manufacturers (e.g., Caterpillar®) must meet.<br>Hardee County also has dust and noise standards. | Comment acknowledged.<br>Final AEIS section on air quality ha s been updated to reflect these noise standards. |

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| 188 | We concur that air pollution, notably dust/fugitive emissions, can be adequately controlled by utilized dust suppression techniques currently employed at SP, such as truck washing, road watering, or installation of berms and vegetative buffers. EPA's estimated efficiency of dust suppression methods is 75-90%.<br>We concur that equivalent floodplain storage is adequately addressed by DEP rules.<br>· During mining, flood storage capacity is increased by CSAs;<br>· Discharge records and capture analysis demonstrate no increase in peak flows;<br>· ERP no-rise requirement on post-reclamation lands;<br>· CF during mining analysis and FMR demonstrated this.<br>· Therefore, no increase in flooding projected.<br>See Comment Letter at Section IV, Subsection G.<br>We concur that DEP and local reclamation requirements for mines are adequate to ensure an economic and/or environmentally beneficial post-reclamation land use. Lands have been reclaimed as native habitat, agricultural lands, and commercially developable properties, among other uses. Mine plans will achieve state and local land conservation goals along riparian corridors. See Comment Letter at Section IV, Subsection F and Subsection K and Attachment E.<br>SPE will rely upon the same infrastructure that has supported the South Pasture Mine since 1995, and because no increase in production rates is proposed, no expansion of existing infrastructure would be needed for the SPE.<br>We concur that potential environmental and human health impacts of phosphogypsum stack systems has already been fully addressed in permitting of those stacks. S | Comment acknowledged. |
| **Ecological Resources** | | |
| **Summary Comments** | | |
| **ECO-1** | **A number of commenters raised concerns about the use of large buffers to set aside avoidance areas to protect streams and wetlands The general concerns were that current planning provides ample protection and these wide avoidance areas would make the tracts largely unmineable.** | **The onsite alternatives in the draft AEIS that evaluated mining exclusion zones (buffers) of 1,500 ft, 3,000 ft, and 6,000 ft around streams and high quality wetlands are not included in the Final AEIS. Under the mitigation framework developed for the Final AEIS (Chapter 5), decisions on avoidance areas will be part of the permit review that will determine the extent of avoidance that is practicable under the Section 404(b)(1) Guidelines. Relative to estimated rock lost, the available tonnage of phosphate rock from each acre mined was taken as an average for estimates of phosphate rock produced within the AEIS. The exact tonnage of phosphate rock per acre varies over the CFPD and within each mine. The text has been corrected as** |

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| | | **appropriate to note the lack of perennial streams on SPE property.** |
| 11 | Buffer Distances. There appears to be no hydrologic, ecologic, or water quality basis for establishing buffers of arbitrarily set distances that would uniformly (or selectively) apply in all cases. To be properly considered, buffer concepts must be addressed on a project-specific basis in light of site-specific considerations. Specifically, there appears to be no valid scientific data supporting the establishment of setbacks between phosphate mine areas and avoidance areas of 1,500, 3,000, or 6,000 feet (or any other distance) beyond comments made by certain commenters during the scoping process. | Included in summary response above. |
| 12 | The buffers presented in the DAEIS are not necessary to protect against water quality impacts associated with mining, in light of the perimeter berms established as stormwater best management practices (BMPs) around mining areas. | Included in summary response above. |
| 13 | No evidence has been presented that the extensive buffers in the DAEIS are necessary to protect or improve stream flow or hydroperiods in adjacent streams or wetlands, in light of the demonstrated recharge systems designed and installed adjacent to such features. | Included in summary response above. |
| 14 | There is no documentation or other evidence that the buffers considered in the DAEIS will provide greater protection of habitat values or wildlife in the avoided systems. | Included in summary response above. |
| 16 | The available data indicates that extensive buffers as presented in the DAEIS are not necessary to protect or improve stream flow or hydroperiods in adjacent streams or wetlands, in light of the recharge systems designed and installed adjacent to such systems. On the contrary, as the DAEIS recognizes, recharge systems are designed to provide hydrologic functions in lieu of those that conceivably would be provided by large buffers to maintain a functionally viable water table protective of wetlands and streams. For example, the Southwest Florida Water Management District's Water Use Permit for CF's South Pasture Mine requires the installation of recharge systems whenever the company is mining within 1,800 feet of a property boundary or wetland preserve, specifically to prevent adverse dewatering of wetland water levels and stream baseflow. The 1,800 foot distance was determined conservatively from site-specific soil and aquifer characteristics. In effect, the recharge systems provide a level of water level protection equivalent to that of an 1,800 foot buffer or better. | Included in summary response above. |
| 17 | Furthermore, CF has conducted a detailed water budget for the existing South Pasture and proposed South Pasture Extension Mines as part of the company's Environmental Resource Permit application. Given CF's permitted WUP groundwater withdrawals and dedicated storage capacity, the company can | Included in summary response above. |

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| | provide offsite stream flow equivalent to that of a pre-mining condition on a long-term, annual, and seasonal basis. Also, the company can provide offsite flows in a manner that would not adversely affect the withdrawal capacity of the Peace River Manasota Regional Water Supply Authority.<br><br>Also, upon reclamation, the company's MIKE SHE integrated model results indicate that the land will provide enhanced flows for approximately 90% of the time, with such benefits occurring during all but the wettest of periods. This means that both during mining and after reclamation, CF's property will provide for adequate offsite flow during the dryer and most common intermediate rainfall periods, while reducing the severity of major floods. Therefore, the extensive buffers are not necessary to protect against water quantity impacts in avoided or downstream areas.<br><br>For example, on the SPE the majority of the uplands within 1,500 feet of the proposed No Mine area comprise agricultural land, barren/disturbed land, or transportation/utility uses (FLUCCS 200, 700, or 800, respectively). Specifically, buffering the proposed No Mine area by 1,500 feet results in the protection of 2046 acres of uplands (1,443 acres of which are agricultural or disturbed land cover types) and only 427 acres of wetlands. Therefore, 58% of the total buffered area and 69% of all uplands within the buffer are agricultural and/or disturbed. Consequently, many of the wetlands and patches of native upland land cover within this buffer are severely fragmented by the dominant agricultural land. Similar but more severe effects are realized when the 3,000 and 6,000 foot buffers are applied. This demonstrates that preservation of these areas does not provide valuable ecological connections between "core" areas of high quality habitat. | |
| 18 | The Affected Environment (Chapter 3) and Mitigation (Chapter 5) discussions indicate such buffers are unnecessary. As Attachment E demonstrates, the proposed hydrologic monitoring and site-specific geologic investigations, coupled with recharge ditch and berm systems designed based on site-specific surface and subsurface conditions and the condition of adjacent preserves, are fully protective of off-site and on-site avoided areas when designed and implemented as proposed in CF's Preferred Alternative. Mining activities adjacent to a specific preserve occur only briefly (i.e., typically a few years), as opposed to permanent land use changes (e.g., commercial or residential development) where the presence of buffers may be warranted due either to the permanence of development or the inability of the developer to implement BMPs such as those proposed by CF. | Included in summary response above. |

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| 19 | CF's Preferred Alternative also includes landscape-scale reclamation that results in a net increase in streams, wetlands, and native habitat covers on site and elimination of historic agricultural land use impacts, which is a benefit that would likely not be achieved by implementing these unnecessarily large buffers, without the revenues generated by mining to fund the restoration. See Attachment D (SPE Application, Wildlife Habitat Management Plan). | Included in summary response above. |
| 20 | These large buffers also contain uplands that are mineable without federal Clean Water Act authorization; therefore, in many cases, such buffers go beyond the "No Action" Alternative in the DAEIS. Based on these factors, CF believes the buffers presented are unwarranted, inappropriate and unworkable as alternatives. | Included in summary response above. |
| 22 | Table ES-5/4-55: Priority 1 and 2 Avoidance Areas: CF's Preferred Alternative already incorporates avoidance of high quality and unique habitat to the extent feasible and practicable, although it does not specifically incorporate CLIP Priority 1 and 2 concepts. Further, CLIP 1 and 2 encompasses substantial acres of upland habitats. The Clean Water Act, Section 404, does not regulate uplands, only waters of the United States.<br>1,500 Foot Buffer = Loss of 89% of potential available reserves<br>3,000 Foot Buffer = Loss of 96% of potential available reserves<br>6,000 Foot Buffer = Loss of 100% of potential available reserves | Included in summary response above. |
| 23 | Table ES-6/4-56: Perennial Streams: There are no perennial streams on the SPE project site. Therefore it is unclear what is being used as the basis for this analysis, since it appears to be a separate analysis from the Perennial + Intermittent Streams avoidance alternative in Table ES-7/4-5. CF's Preferred Alternative already incorporates avoidance of natural intact (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.<br>1,500 Foot Buffer Not applicable to SPE<br>3,000 Foot Buffer Not applicable to SPE<br>6,000 Foot Buffer Not applicable to SPE | Included in summary response above. |

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| 24 | Table ES-7/4-57: Regional Dataset Mapped Perennial and Intermittent Streams: The streams as mapped for purposes of these tables do not comport with the site-specific, field-verified stream mapping undertaken by CF, which is in the process of being verified as part of the wetland jurisdictional determination for the site. These numbers do not accurately reflect the existence of length of streams on the SPE. CF's Preferred Alternative already incorporates avoidance of intact natural (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.<br>1,500 Foot Buffer = Loss of 65% of potential available reserves<br>3,000 Foot Buffer = Loss of 88% of potential available reserves<br>6,000 Foot Buffer = Loss of 96% of potential available reserves | Included in summary response above. |
| 26 | Table ES-9/4-59: High-Quality Wetlands Identified by Applicant: CF agrees with the concept of on-site alternatives based on the actual conditions and functions of the wetlands and surface waters on site. This concept has already been incorporated into CF's Preferred Alternative. However, it must be recognized that the DAEIS does not assess site-specific considerations such as mine logistics, feasibility, and practicability of additional avoidance beyond what is already reflected in the Preferred Alternative. CF has previously conducted a logistical and technical practicability analysis of additional avoidance of high-quality wetland and surface waters. See CF SPE ACOE Application, Environmental Narrative.<br>1,500 Foot Buffer = Loss of 65.6% potential available reserves<br>3,000 Foot Buffer = Loss of 46.4% potential available reserves<br>6,000 Foot Buffer = Loss of 27% potential available reserves | Included in summary response above. |
| 27 | Table ES-10/4-60: Applicant-Mapped Perennial and Intermittent Streams: The streams as mapped for purposes of these tables do not comport with the site-specific, field-verified stream mapping undertaken by CF, which is in the process of being verified as part of the wetland jurisdictional determination being undertaken for the site. These numbers do not accurately reflect the existence of length of streams on the Extension parcel. CF's Preferred Alternative already incorporates avoidance of intact natural (intermittent) streams to the extent feasible and practicable, although there are no perennial streams on site.<br>1,500 Foot Buffer = Loss of 35.3% potential available reserves<br>3,000 Foot Buffer = Loss of 18.4% potential available reserves<br>6,000 Foot Buffer = Loss of 7.6% potential available reserves | Included in summary response above. |
| 35 | The proposed mining and reclamation plans do not necessarily equate to "a lesser level of environmental protection." Likewise, avoidance of streams and wetlands and creation of excessive setbacks does not result in greater environmental protection. The site-specific effects of avoidance of specific environmental or ecological resources on a site must be examined in light of the quality and | Included in summary response above. |

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| | uniqueness of that habitat on the site, the surrounding landscape (e.g., is it surrounded by pasture or forest? Part of a riparian corridor or relatively isolated?), connectivity or ability to connect to riparian corridors and to create integrated landscapes, and the ability to restore the impacted systems to the same or better condition. The permanence of the protection afforded by mitigation (compared to potential development of the resource in its unprotected condition) must be assessed. | |
| 72 | As you know, NEPA requires that each federal agency prepare an environmental impact statement (EIS) for all "proposals for . . . major Federal actions significantly affecting the quality of the human environment."[4] Applications for federal permits, such as a DA Permit, can rise to the level of "major Federal actions" requiring NEPA analysis.[5] In this case, CF's SPE project requires approval from the Corps for activities associated with the project that result in a discharge of dredged or fill material into waters of the United States in accordance with 33 U.S.C. §1344. The Corps has determined that the SPE project and corresponding DA Permit Application constitute a proposal for major federal action that may significantly affect the quality of the human environment.[6]<br><br>NEPA is intended as a tool to aid in that agency decision-making. As the DAEIS properly recognizes, it is not an end in and of itself, and it does not mandate a particular result. Furthermore, while an areawide EIS such as this one "may be particularly useful" for reviewing the impacts of similar proposed actions along "with other reasonably foreseeable or proposed agency actions" when they "share common timing or geography," NEPA actually addresses only "pending proposals" for agency action. "NEPA does not require an agency to consider the possible environmental impacts of less imminent actions when preparing the impact statement on the proposed action."[7]<br><br>Significantly, in reviewing what constitutes a reasonable range of alternatives, the Corps in the final documents must consider what is reasonable for CF to implement as an extension project. "What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case."[8] Further, the extent of federal jurisdiction over a project and the ability of the agency to implement a particular alternative effects the level of analysis required for that particular alternative.[9] "Reasonable alternatives must be those that are feasible and such feasibility must focus on the accomplishment of the underlying purpose and need.…Those alternatives that are unavailable to the applicant…should be evaluated only to the extent necessary to allow a complete and objective evaluation of the public interest and a fully informed decision regarding the permit application."[10] For applications for DA Permits, the Corps should normally focus on the applicant's statement of project purpose from the applicant's perspective.[11]<br><br>It should also be remembered that the "No Action" alternative, for purposes of a | Included in summary response above. |

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| | DA Permit is "one which results in no construction requiring a Corps permit," which may be either by the applicant "electing to modify his proposal to eliminate work under the jurisdiction of the Corps" or "by denial of the permit."[12] Thus, alternatives that would essentially result in no disturbance of waters of the U.S. are functional equivalents of a "No Action" alternative and do not need to be analyzed again.<br><br>CF believes the DAEIS properly reflects the role NEPA imposes on the Corps' decision-making process on the SPE Application and affords the Corps and its cooperating agencies, the opportunity for meaningful analysis of the environmental consequences of the four proposals for agency action. CF further suggests that, for several of the on-site alternatives addressed in the document (see, e.g., DAEIS Tables 4-55, 4-56, 4-57 and 4-58), further site-specific feasibility analysis for the SPE is unnecessary as they are clearly unreasonable or not practicable and/or would result in essentially the same mine footprint as the "No Action" alternative. | |
| 175 | Ecological Resources: Assessment of Buffers Distance from specified avoidance areas.<br><br>There appears to be no hydrologic, ecologic, or water quality basis for establishing buffers of set distances that would uniformly apply in all cases. CF's recharge ditch and berm system, as proposed in CF's Preferred Alternative, modeled and designed based on detailed in-situ hydrogeologic conditions, have proven to be effective in protecting avoided areas from adverse impacts, yet would not result in the sacrifice of mineral reserves that these buffers would entail. | Included in summary response above. |
| 176 | On-site Alternatives: In general this discussion includes quantification of the lost reserves per each on-site alternative (tons of rock). The practicality of each is not mentioned with respect to the resulting limitations on infrastructure and clay disposal capacity or ability to maneuver draglines or other equipment – All of the buffers impose significant geometric limitation on the location, configuration, and capacity of clay settling areas such that the remaining reserves would possibly also not be mineable due to the lack of adequate waste disposal capacity. | Included in summary response above. |
| 179 | The suggested buffers are not scientifically, hydrologically, or ecologically justified. In addition, site-specific stream delineation on South Pasture Extension showed there are no perennial streams on the parcel. Therefore, this avoidance alternative does not apply to CF. | Included in summary response above. |
| 181 | CF No-Mine Plan is already based on avoidance of high quality streams and wetlands to the extent practicable. Thus, we support this avoidance/minimization approach. However, the alternative buffers are not necessary and unduly restrict reserve recovery. | Included in summary response above. |

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| 183 | Consideration of the value of jurisdictional wetlands is an appropriate and environmentally sound basis for comparison of on-site alternatives, to the extent it is based on site-specific data and information. However, as noted in the Comment Letter, incorporation of mandatory setback distances from high-value wetlands does not have a sound hydrologic, ecologic or water quality protection basis. Incorporation of some along with a recharge ditch and berm system, specifically designed based on site-specific data and modeling results, achieves an equivalent level of hydrologic and ecologic protection of the avoided resource, without the same substantially adverse impacts of reserve recovery. See also Attachment J. | Included in summary response above. |
| 184 | Consideration of the presence or absence of streams is an appropriate and environmentally sound basis for comparison of on-site alternatives, to the extent it is based on site-specific data and information. However, as noted above, incorporation of mandatory setback distances from streams does not have a sound hydrologic, ecologic or water quality protection basis. All buffers should be established on a site-specific basis based on the resource in question. Incorporation of some along with a recharge ditch and berm system, specifically designed based on site-specific data, achieves an equivalent level of hydrologic and ecologic protection of the avoided resource, without the same substantially adverse impacts to reserve recovery. Further, as noted above, the South Pasture Extension parcel does not contain perennial streams. Therefore, the mapping for the Extension parcel relative to this alternative appears to be in error. | Included in summary response above. |
| **ECO-2** | **These comments question why the IWHRS and CLIP tools were used in the Draft AEIs instead of field data provided in the 404 applications to analyze the impacts of the four proposed mines. The comments indicate that IWHRS and CLIP are less reliable than the field data provided in the applications and that their scores also reflect upland areas.** | **CLIP and IWHRS are not used in the final AEIS to analyze the impacts of the Applicant-proposed mines. The impact analysis for the proposed mines in the final AEIS is based entirely on data provided in the 404 applications. This has been done to allow a more accurate assessment of the proposed mines. The CLIP Wetland layer is used in the final AEIS only to estimate the quality of wetlands on the offsite alternatives as WRAP/UMAM data are not available for the offsite alternatives.** |
| 134 | This section should point out that the IWHRS and CLIP approaches do not rely on any of the data or knowledge collected directly from the proposed sites through the planning and permit application development processes. Such data are thorough and multifaceted, representing things like ground-based land cover mapping, wetland functional assessments, and wildlife surveys. | Included in summary response above. |
| 144 | Discussed what proportion of the site has high IWHRS and CLIP scores, but does not relate the locations of those areas to proposed No Mine areas on CF SPE. Additionally, these areas include a substantial amount of uplands. Clean Water Act S. 404 permitting is required for discharges of dredged fill material in wetlands and surface waters, not uplands. | Included in summary response above. |

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| 146 | In its Corps Application for the South Pasture Extension, CF has already thoroughly considered the practicability of minimizing impacts to "high value" wetlands in its Preferred Alternative by its avoidance of most high quality wetlands using UMAM where practicable. CLIP constitutes a lesser reliable but redundant application and in fact encompasses a significant amount of upland areas, not wetlands. Site specific available data should be used for each of the applicant's alternative areas rather than less reliable and often incorrect NHD and NWI datasets. | Included in summary response above. |
| **ECO-3** | **These comments question why the Draft AEIS indicated that perennial streams are located on the SPE mine (outside the no-mine areas) - in the sections that evaluated mining setbacks from perennial and intermittent streams.** | **The Final AEIS has modified the discussion of onsite alternatives and this discussion is now in Chapter 5 under mitigation. Final decisions on setbacks and buffers are discussed conceptually but final decisions are part of the permitting review process by the USACE.** |
| 177 | Perennial Streams: The DAEIS indicates a preference for site-specific supplemental data from monitoring records, agency reports, etc. (page 4-1, line 8) Therefore, as clearly addressed within the SPE application materials, no stream within the SPE should be considered perennial. | Included in summary response above. |
| 260 | Table ES-6/ES-7 shows perennial streams within 1500 feet of mineable acres for CFI.<br>This is mentioned again in Chapter 4.10.4 page 163 line 20. | Included in summary response above. |
| **ECO-4** | **These comments question why the bluetail mole skink and sand skink were included in Chapter 3 of the Draft AEIS.** | **These species were identified by USFWS during the AEIS scoping as having the potential to be affected by the proposed action. The Final AEIS has been revised to clarify this.** |
| 284 | Although the USFWS consultation area for the bluetail mole skink and sand skink includes all of Polk County, there are no records of either species in the CFPD boundary, as both are biogeographically restricted to the Lake Wales Ridge. They do not need to be included in Table 3-15. | Included in summary response above. |
| 338 | As stated for Section 3, the sand skink and blue-tailed mole skink do not exist in the CFPD. They are restricted to the Lake Wales Ridge. | Included in summary response above. |
| **ECO-5** | **These comments indicate that cumulative benefits to wildlife would occur through the reclamation and mitigation that would be provided by the proposed mines.** | **Cumulative wildlife impacts are analyzed in the Final AEIS in terms of quantitative habitat loss and temporal habitat loss. The magnitude of each assessed based on the mitigation and reclamation that would be conducted.** |
| 193 | We concur that regional cumulative benefits to wildlife will occur as a result of implementation of the proposed projects. Suggestions elsewhere of impacts to wildlife should be conformed. | Included in summary response above. |
| 211 | Implies there is cumulative impact on local populations of wildlife. Reclamation/mitigation provides overall cumulative positive benefits to wildlife. See Section 4.12.1.2. See Comment Letter at Section III, Subsection H and at Section IV, Subsection F and Subsection K and Attachment E. | Included in summary response above. |

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| **ECO-6** | **Several commenters suggested revisions for text that is no longer included in the final AEIS** | **Not applicable as the referenced material was not included in the Final AEIS.** |
| 25 | **T**able ES-8/4-58: Peace River Greenway Initiative (PRGI) Areas: As set forth herein, the Peace River Greenway Initiative (PRGI) includes primarily uplands and agricultural lands not subject to Corps or EPA regulatory jurisdiction.<br><br>Consideration of the Initiative map areas (or of IHN areas) as avoidance concepts does not comport with the goals of the PRGI nor do they appear to be consistent with available site-specific data. CF's Preferred Alternative already incorporates and integrates creation of integrated riparian corridors and adjacent native habitat and connectivity to the IHN, both key goals of the PRGI. Strict avoidance of the PRGI areas (which do not appear to be properly mapped) is not required or even preferable to achieve the restoration and connectivity goals of the PRGI.<br><br>Avoidance of PRGI Areas = Loss of 64% of potential available reserves, primarily through avoidance of upland areas. | Included in summary response above. |
| 31 | The Peace River Greenway Initiative data includes mostly upland areas and significant amounts of agricultural lands. See Comment Letter at Section IV, Subsection A and Subsection E, #1. There appears to be little ecological or hydrologic basis for inclusion of the Peace River Greenway Initiative area as a potential avoidance area. The goals of the PRGI recite the intention to create riparian corridors utilizing preserved, reclaimed and restored lands, and the PRGI was founded upon the corridors established for the Integrated Habitat Network (IHN). The GIS layer apparently provided by the PRGI does not reflect that goal, given its apparent inclusion of agricultural lands and uplands. As in Comment Letter at Section IV, Subsection D, #1, and Subsection K on IHN; the IHN relies on restoration of riparian corridors and habitat nodes. | Included in summary response above. |
| 33 | CF requests that avoidance of the PRGI-identified areas not be included as an on-site alternative to CF's Preferred Alternative because it is not scientifically or ecologically justified. | Included in summary response above. |
| 78 | The Peace River Greenway was constructed based on the Integrated Habitat Network, which is based primarily on creation of connected riparian corridors to facilitate wildlife movement. However the Greenway map does not coincide with these riparian corridors. | Included in summary response above. |
| 132 | The analysis is largely based on GIS layers such as the IWHRS, CLIP and FLUCCS. Updated and/or site-specific data and GIS layers should be used wherever possible in lieu of regional data that is necessarily less specific.<br><br>The CLIP datasets include large amounts of lands that are not subject to federal jurisdiction, .e.,g. palmetto prairies and pine flatwoods. Further, these datasets do not necessarily comport with the ecological value and condition of habitats on the South Pasture Mine Extension parcel. In lieu of on-site alternatives concepts | The referenced analysis and table are not included in the Final AEIS. |

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| | that incorporate avoidance of Priority 1 and 2 areas (which are often upland areas), on-site alternatives should assess the conditional and functional value of the wetlands or other surface waters at issue, as assessed and field-verified pursuant to UMAM and other appropriate site-specific analytical tools. | |
| 309 | No-Mine Line should be added pre/post reclamation in comparison to these areas. | Included in summary response above. |
| 319 | What is data source for perennial stream mapping? There are no perennial streams on SPE. | Included in summary response above. |
| 343 | The orange shading on these maps appears to exclude much of the stream corridor and floodplain areas contributing to the Peace River Greenway. The source and accuracy of the PRGI data is questionable. | The referenced figures are not included in the Final AEIS. |
| **ECO-7** | **Commenter suggested that onsite field data be used where possible to replace remote sensing data.** | **Unlike in the Draft AEIS, the ecological impact analysis for the proposed mines in the Final AEIS is based on the field data provided in the applications - field delineations, UMAM, wildlife/listed species surveys, etc.** |
| 29 | Site specific data should be used in lieu of regional data where available and possible.<br><br>Verified, site-specific datasets for the proposed projects should be used to supplant and correct regional datasets wherever possible, as the DAEIS recognizes and CF concurs that field-verified, detailed site-specific data are far more accurate and useful for assessing and weighing environmental consequences of alternatives than are regional datasets or generalized metrics.<br><br>It is understood that publicly available data had to be used in the AEIS analyses by the very nature of the scale of the study. CF supports the use of regional datasets for initial site screening purposes (Section 2.2.4) and for basic assessment of the regional affected environment (Chapter 3) (with some corrections, as noted in the Technical Corrections Table). However, CF believes exclusive use of regional databases for assessment of on-site alternatives (Sections 2.2.3 and 4.10) is of limited value. Incorporation of site-specific data, particularly where readily available and field validated, will improve the Corps' NEPA analyses.<br><br>The regional information used as a basic alternatives screening tool in the DAEIS should be supplemented with such site-specific data for better performance of feasibility and practicability analyses for each project. The NEPA and avoidance and minimization analyses should advance beyond use of the initial screening tools [e.g., the Critical Lands and Waters Identification Project (CLIP), the Integrated Wildlife Habitat Ranking System (IHWRS), and National Hydrography Dataset (NHD) databases] to more precise metrics.<br><br>The IHWRS and CLIP are based entirely upon analysis of large-scale remote sensing data consistent with 1:24,000 to 1:100,000 map scale resolution. While | Included in summary response above |

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| | such data are sufficient for initial statewide screening of candidate sites, they are not appropriate for use in high-accuracy mapping applications. As an example, on four of 24 sites evaluated in the DAEIS, the acreage of highest quality wildlife habitat projected was up to twice the acreage of native cover present on the site, which demonstrates that up to half of the sites' highest quality wildlife habitat was actually land that had been converted to agricultural uses. It is for this reason the authors of CLIP and IHWRS include explicit disclaimers concerning potential small-scale inaccuracies (see pp. 4-6 of the Clip 2.0 Technical Report and pp. 19-20 of the 2009 IWHRS report). | |
| 32 | CF suggests that the purposes of the IHN (on which the PRGI purports to be PRGI based) be clarified in the FAEIS. The FDEP BMMR outlined its concept for the IHN plan in 1992 in its publication "A Regional Conceptual Reclamation Plan for the Southern Phosphate District of Florida." The IHN is a guide for the reclamation of mined phosphate lands throughout this area that endeavors to maximize habitat replacement, connection and water resource protection. Within the IHN, the largely undisturbed riverine floodplain lands make up the "core," while the adjacent reclaimed "buffer" lands complement and enhance the habitat value of the core lands. With appropriate management, these areas would benefit the water quality and quantity in the area, improve wildlife habitat, and serve as connections between the mining region's rivers and significant environmental features outside the mining region. This purpose is not fully articulated in the DAEIS and therefore should be incorporated into the FAEIS. | Under the mitigation framework developed for the final AEIS, permit review may consider wetlands within the IHN as an additional criterion in association with the identified priority criteria for the purpose of evaluating the potential benefits that avoiding such wetlands may have on the development of the IHN. |
| **Individual Comments** | | |
| 5 | Integrated Habitat Network (IHN). Page 2-57 of the DAEIS does not accurately reflect the goals of the IHN where it is used as a screening tool to determine mineable extent of alternative parcels. The IHN should not be used as a tool to determine avoidance areas, but rather, as a tool for establishing the potential for connectivity of wildlife corridors through preservation, restoration, creation or enhancement of habitat. See CF comments on Chapter 5, below. | The IHN was used in combination with several other criteria in the Tier 2 screening of offsite alternatives. This criteria included consideration of only forested areas within the IHN that comprised a high percentage of the overall site. |
| 95 | CF data demonstrates no adverse impacts to sensitive habitats due to localized dewatering. | The potential impacts that dewatering has on sensitive habitats including the measures implemented to minimize those impacts are addressed in the Final AEIS. |
| 117 | Could contrast the stations where mining is occurring (e.g., Bowlegs, Horse [665], Whidden, and Payne Creeks = scores 48-65) against stations where mining is not occurring; all mining sites are healthy. Also, similar to the comments to page 3-80, a conclusory paragraph regarding the health of the macroinvertebrate community as documented by this chapter would strengthen and support Chapter 4. | Comment acknowledged. Conclusions regarding the scores of sites that drain phosphate mining areas were purposefully not made because this was not addressed by the FDEP study and because the potential influence of other non-mining factors cannot be known without further study |

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| 119 | CF disagrees with the blanket implicit assertion that mine projects would adversely affect wetlands and surface waters unless included in a no-mine area. While it is accurate to say these areas would be directly impacted by extraction, reclamation activities are required by law as part of any modern mine project. In many cases, the system to be mined is already heavily impacted and the proposed reclamation would restore its natural condition. | The discussion of wetland impacts in the referenced section has been removed as it is not relevant to assessment of baseline conditions in Chapter 3. Wetland impacts are addressed in Chapter 4 and the mitigation discussion related to offset wetland impacts is addressed in Chapter 5. |
| 141 | Examples of upland habitats that are considered ecologically important to wildlife are provided in Section 3.3.6 (page 3-108, lines 17-28). Pasturelands and/or agricultural lands are not included. Mine projects necessarily include on-site reclamation, which can provide enhanced functions. Additionally, "avoidance" and "preservation" are not coequal terms. Preservation is part of CF's mitigation plan that would not be required to offset impacts if additional areas are avoided. | Chapter 4 in the Final AEIS acknowledges that some types of pasturelands provide habitat for certain wildlife species. |
| 142 | Properly acknowledges that the No Action Alternative would likely result in less habitat enhancement and preservation as well as more degradation from non-mining activities. | The Final AEIS discusses the differences in impacts that would result from the no action alternative and those that would result from the proposed mines. |
| 145 | The DAEIS statements here concerning indirect impacts and potential downstream impacts are fairly general. We suggest this discussion be more detailed. The related resource subject in Ch. 3 should be incorporated here. | Chapter 4 in the Final AEIS provides a thorough analysis of the impacts to downstream biological communities. |
| 147 | The Hardee County Mining Overlay- Figures would be improved if the County boundary is shown. | The Hardee-County Mining Overlay is not an offsite alternative in the Final AEIS. |
| 148 | A summary paragraph regarding wildlife impacts under each reasonable project alternative should be added to the FAEIS. | The Final AEIS provides a wildlife impact summary for each alternative. |
| 163 | Note that CF's mine plan includes aquatic biological monitoring requirements. | Comment acknowledged. The analysis of impacts to aquatic biological communities in the Final AEIS is based on the impacts that would occur to onsite communities and the mitigation that would be provided to offset those impacts. |
| 208 | Properly acknowledges the contribution of CSAs and other "artificial habitats" to wildlife habitat. | This topic is addressed in the Final AEIS - Chapter 3. |
| 209 | Properly acknowledges that the stream losses will be temporary and that the ultimate result will be an increase in streams, which mitigates impact identified in the PRCIS. | The Final AEIS acknowledges that stream losses would be temporary and the amount of stream length proposed to be reclaimed as indicated in the public notice/404 applications. |
| 249 | To provide a better comparison with existing site-specific data, CF suggests the Corps include in the FAEIS current and post-reclamation maps of FLUCCS, UMAM or WRAP scores for the four proposed sites for comparison against the regional maps and data for other sites. They could be presented as side-by-side comparisons. This would allow an easy visual comparison of the IWHRS and CLIP data with ground-level data from the four mines. | The impact analysis for the proposed mines in the Final AEIS is based entirely on data provided in the 404 applications. This has been done to allow a more accurate assessment of the proposed mines. Therefore a comparison with CLIP and IWHRS is unnecessary. |

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| 256 | The acreage provided is inconsistent with the remainder of the document. | The data errors have been corrected in the Final AEIS. |
| 257 | Different wetland acres are used in different places and need to be clarified as to whether they are total wetlands, impacted wetlands, other, and the source of the data. CF application information should be used (or, when approved by the Corps, the wetland jurisdictional determination); P 8: 1,423 acres; P 15: 1226; P. 19: . 1769 | The data errors have been corrected in the Final AEIS. |
| 263 | "1,769 acres of wetlands" – this figure should be clarified that this figure represents total wetlands/surface waters on site, not impacted acres | The data errors have been corrected in the Final AEIS. |
| 264 | Cited numbers are total acres of wetlands and stream linear feet on the SPE, not impact acres. Current mine plan includes 1,261.6 acres of wetland impacts and 32,161 linear feet of stream impacts. | The data errors have been corrected in the Final AEIS. |
| 265 | The figure does not include CF SPE No Mine lines and implies that all wetlands on SPE will be potentially impacted by mining. | The referenced figure in the Final AEIS shows the USACE jurisdictional wetlands on SPE based on the USACE-approved JDs where applicable. The figure is not intended to show CF's proposed avoidance areas. |
| 266 | Referenced SPE impacts are for 600-level FLUCFCS only; does not include 500-level FLUCFCS. Footnote "a" indicates that acreages are for both wetlands and streams. | The referenced table has been revised based on the USACE-approved JDs where applicable. |
| 281 | The DAEIS should be corrected to reflect actual vegetative cover rather than SWFWMD land cover maps, wherein the majority of reclaimed lands are coded FLUCFCS 165 = reclaimed land. If this deficiency is corrected, the picture of "lost" wetlands and uplands habitat is largely mitigated. One option would be to recommend use of the USGS or USDA "national land cover" dataset (2005). | The AEIS has been revised to note that the 2009 SWFWMD FLUCCS mapping does not account for all land uses/habitats created through reclamation. |
| 282 | Some listed species (like caracaras and burrowing owls) primarily occupy agricultural lands, but the DAEIS doesn't recognize this in the habitat cover types it lists. | Chapter 3 has been revised to acknowledge that some types of pasturelands provide habitat for certain wildlife species. |
| 283 | Add a new paragraph to the end of this paragraph: "The ESA also requires an assessment of the potential effects on species proposed for listing (50 CFR §402.12). | Similar language is in the discussion of listed species direct and indirect effects in Chapter 4. |
| 285 | The short-tailed snake, least tern, limpkin, roseate spoonbill and Suwannee cooter are other state-listed species known to occur within the CFPD. | The Final AEIS discusses the state species that have consistently been observed within the CFPD based on past surveys. It also discusses the state-listed species that have been observed on each proposed mine site during surveys. |
| 288 | There is little connectivity, not no. | The referenced statement has been revised to read "little to no" as some disturbed areas would provide no connectivity |
| 305 | Wetland acreage affected here is listed as 1226 ac, but in Section 4.3.2.4 (Ch4 Pg41 Ln6) as 1262 ac. Consistency with acreages needs to be revisited. See comment in ES/8/10. | The data errors have been corrected in the Final AEIS. The referenced table is not included in the final AEIS. |

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| 307 | The AEIS mentions 96% bay swamp acreage preserved but Table 4-8 shows 0 acres of bay swamps? If this table provides only acreages within the area to be mined, that should be stated. | The referenced table is not included in the Final AEIS. The data presented in Chapters 3 and 4 for the proposed mines are from public notices and 404 permit applications. GIS-based data/tools are used only for the offsite alternatives in the Final AEIS. |
| 325 | The bullets are indicative of all development, not just mining. | The Final AEIS presents the referenced bullets as just historical impacts. |
| 326 | This acreage is due to inconsistencies by SWFWMD contractors when mapping land use using FLUCFCS. Essentially, significant acreages were mapped as stream and lake swamps (i.e., FLUCFCS 615) in the 1972 USGS data and refined by SWFWMD to represents 1979, then as upland forests in 1999 (possibly due to drought conditions), and then as stream and lake swamps in 2009. Table 4-66 on page 4-192 reflects the shift back to FLUCFCS 615 in 2009, thereby resulting in a net increase in wetlands acreage in the Peace River basin of 59, 040 acres between 1999 and 2009. | The referenced bullet is not included in the Final AEIS as the factors that may be associated with the referenced bullet are all speculative as indicated in the Peace River Basin Resource Management Plan. |
| 330 | This figure needs to be corrected with the post-reclamation land cover for the areas mapped as extractive. | The text that refers to the referenced figure has been updated to indicate that the Extractive category primarily represents phosphate-mined lands; however, it also includes some reclaimed areas. As such, the 2009 SWFWMD FLUCCS overestimates the coverage of phosphate-mined land and underestimates land uses/habitats that have been created through reclamation. |
| **Land Cover** | | |
| **Summary Comments** | | |
| **LC-1** | **Narrative is inaccurate in describing unmined lands as acreages with extractive land cover.** | **Text and tables have been modified to acknowledge that the SWFWMD FLUCCS data over estimate the amount of extractive lands use.** |
| 322 | Tables are labeled as though they reflect “Unmined Lands” but they each contain acreages of “Extractive” land cover. | Included in summary response above. |
| 323 | Narrative is inaccurate. | Included in summary response above. |
| **Permitted Withdrawal/Discharges** | | |
| **Summary Comments** | | |
| **W&D-1** | **Correct the water use tables to properly account for reclaimation water withdrawal rates.** | **Table has been revised to include drought year permitted quantities through the life of the mine so reductions associated with reclamation only are not included. Changes made with industry input for final document.** |
| 297 | As shown on Table 1-3, CF’s currently permitted reserves on South Pasture will be mined by 2025, so their water use should crop to 0.5 MGD through 2030 to support plant demolition (when SPE is mined out) and reclamation. | Included in summary response above. |
| 298 | Table 4-4 is wrong. In addition to the overlap between Four Corners and South Fort Meade with Ona and DeSoto, CF mines out in 2033 according to itsir application, with reclamation complete in approximately 10 years. See Page 1-19, | Included in summary response above. |

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| | line 18. | |
| 299 | Same comment. Note shift from production to reclamation beginning in 2033. | Included in summary response above. |
| **Individual Comments** | | |
| 98 | We concur on the dramatic decrease in industry water use, far below that of other uses; it currently constitutes only 5-7% of total water use in the SWUCA.<br><br>SWFWMD total water use statistics most recently available should be used.<br><br>The SWFWMD publishes estimates of groundwater usage throughout the District. The most recent publicly available estimates are for the 2010 calendar year; DAEIS date should be checked against this date. | The groundwater use by the industry has been discussed in the Final AEIS to include the reduction in groundwater use over the last 30 years due to more on site capture of stormwater and the water conservation practices encouraged by the State and USACE and the industry itself.<br><br>The water use references are from 2010 SWFWMD data. |
| 113 | Summary sentence should be added and permit limits for mine NPDES permits should be listed, e.g., (1) technology-based numerical effluent limits; (2) water quality-based numerical effluent limits; (3) aquatic life criteria; and (4) TMDLs, if applicable. | NPDES water quality permit records for each of the active mines were reviewed within the Final AEIS cumulative impact analysis. |
| 161 | Also the table states Total Nitrogen as 1.6, while CF's data reflects 1.2. | Comment acknowledged. |
| **Editorial and Nomenclature** | | |
| **Summary Comments** | | |
| **ED-1** | **Several commenters requested the Chapter 7 references be updated.** | **Chapter 7, References, have been revised to include all references called out in the text. Also, all callouts in the text have been reconciled with the entries in Chapter 7.** |
| 248 | Description:<br><br>Data and analysis that are in the Administrative Record or are here attached would supplement or correct some of the data in the DAEIS, e.g., current version of CF's DA Application for SPE; approved SPE ERP; CF Reclamation Demonstration Package.<br><br>Comment:<br><br>Please incorporate the attachments at Attachments D-J to CF's Comment Letter into the Chapter 7 References.<br><br>Please incorporate the attachments at Attachments D-J to CF's Comment Letter into the Chapter 7 References. | Included in summary response above. |
| 286 | Mushinsky, McCoy and Kluson (1996) is not in the Literature Cited in Section 7. | Included in summary response above. |

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| 287 | Citation in Section 7 for Durbin et al. (2008) is incorrect and incomplete in the Literature Cited in Section 7. | Included in summary response above. |
| 294 | FNAI, et al., 2001 is not in Chapter 7 (References). | Included in summary response above. |
| 334 | Kale (1992) not in Chapter 7 (References). | Included in summary response above. |
| 335 | American Wildlands 2005 is not in Chapter 7 (References) | Included in summary response above. |
| 341 | Proper citation is: Durbin, D.J, S. Gonzales, H. Mushinsky, E. McCoy, R. Moore, N. Halstead and K. Robbins, 2008, Wildlife Habitat and Wildlife utilization of Phosphate-mined Lands, Florida Institute of Phosphate Research Publication No. 03 – 147 – 230. | Included in summary response above. |
| **ED-2** | **Several commenters suggested editorial revisions** | **The sentence was revised as suggested for referenced text that is in the Final AEIS** |
| 108 | "CFI South Pasture application should be "CF South Pasture Extension Application". | Included in summary response above. |
| 131 | Note Typo | Included in summary response above. |
| 160 | Table 4-20, Outfall "Fort Green 005" appears to be a typo. The appropriate outfall name for CF is "North Pasture Outfall 003". | Included in summary response above. |
| 162 | Clarify nomenclature within the table (Background vs upstream/Outfall 005 vs Station Name; See note above, as this is presumably North Pasture Outfall 003.<br>See comment above regarding total Nitrogen data in Table 4-20. | Included in summary response above. |
| 167 | "The applicants have indicated that clay settling areas in the future are likely to have smaller footprints …" We recommend clarification to say "smaller overall footprint within mines", as individual CSAs are not smaller. | Included in summary response above. |
| 198 | "variety (of) past and ongoing human activities" | Included in summary response above. |
| 271 | Typo – change "producing" to "produce" | Included in summary response above. |
| 272 | Figure 3-1 identifies the product of beneficiation as "phosphate ore"…should be "wet phosphate rock" to avoid confusion. | Included in summary response above. |
| 274 | See comment at 2.2.4.4, above. This is an inaccurate statement of the cost of the plant. | Included in summary response above. |
| 276 | Table 8-6 is missing several "<" and ">" signs in the third column. | Included in summary response above. |
| 279 | Text refers to Hammett as "he" but Kathy is a "she" | Included in summary response above. |
| 289 | Duplicate title for the figure on page 124. | Included in summary response above. |
| 292 | NORM is naturally occurring, not normally occurring. | Text has been revised. |
| 320 | Typo – previously rather than preciously. | Included in summary response above. |

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| 324 | Active phosphate mining (FLUCFCS Code 161) accounts for only 5 percent of the Peace River basin and reclaimed land occupies another 5 percent. According to NRCS (2003), mining accounted for only 2 percent of the Peace River basins. | Included in summary response above. |
| 336 | By 2045, SP will not be "active;" it will be in reclamation. | Included in summary response above. |
| 339 | The correct scientific name for Florida golden aster is Chrysopsis floridana. | Included in summary response above. |
| 340 | Take of bald eagles is authorized by 50 CFR § 22.26, 22.27 and 22.28, not just 22.26. | Included in summary response above. |
| 342 | Add two missing citations after this line:<br>Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Uplands in Central Florida, Florida Institute of Phosphate Research Publication No. 03 – 100 – 129.<br>Mushinsky, M.R., E.D. McCoy and R.A. Kluson, 1996, Habitat Factors Influencing the Distribution of Small Vertebrates on Unmined and Phosphate-mined Flatlands in Central Florida, Florida Institute of Phosphate Research Publication No. 03 – 115 – 180. | Included in summary response above. |
| **Individual Comments** | | |
| 1 | The issues identified in the scoping process have been addressed. This should be recognized in the Final AEIS. | A statement has been added to make it clear that comments received during the scoping process informed the development of the Draft AEIS, helped to define the scope of the Final AEIS, and were addressed as appropriate. |
| 2 | The Executive Summary of the FAEIS should make clear that the "Primary Issues of Concern" identified in ES.4 have been addressed, and that the data and analysis in the AEIS and in the Administrative Record supporting the AEIS, as well as the individual applications (also part of the Administrative Record for the AEIS) support the conclusions in the FAEIS. The implicit assumption that the "Primary Issues of Concern" identified in ES.4 are valid or remain unaddressed is not supported by the remainder of the document, and in particular, the appendices. | A clarifying statement has been added relative to issues that are within the scope of the AEIS. |
| 30 | [It should also be noted that the nomenclature applied to refer to CF's South Pasture Mine Extension needs to be made consistent throughout. | The Final AEIS has been revised to standardize the nomenclature. |
| 54 | Replace Port of Tampa Phosphate Complex with Port of Tampa Terminal and Warehouse. | The text that reads "Port of Tampa Phosphate Complex" has been revised to read "Port of Tampa Terminal and Warehouse." |
| 55 | Define the source of the 1908 date? North Prong Alafia was mined into 1930's. | The source of the data is shown on Table 1-1. |
| 73 | Since it may be the only document reviewed by many members of the public, the Executive Summary of the FAEIS needs to be very clear relative to potential beneficial and adverse consequences of each pending project.[13] This is particularly true relative to potential cumulative impacts on downstream water | A summary table has been added to the Executive Summary (and Chapter 4) of the Final AEIS to clearly document the predicted effects of the Applicants' Preferred Alternatives and associated mitigation. Explanatory text has been added. |

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| | resources and regional economics, given the significant concerns expressed by the public on both of these topics. CF has worked hard to keep local communities and interested stakeholders informed about all aspects of its project and believes that some of the language in the Executive Summary, by not including summaries and conclusions clearly reflected by the data and in the remainder of the DAEIS, has the potential to inadvertently misinform the public about water resource impacts. For example, the fact that the Corps analysis has indeed addressed the Primary Issues of Concern is not clear. Further, the analysis of environmental consequences in the summary does not adequately summarize the information contained in subsequent chapters and in the appendices. CF recommends that the Executive Summary be revised to add summaries of the environmental consequences discussions relative to impacts in the FAEIS. Also, in many cases, the discussions are split between Chapters 3, 4, and 5. Those discussions should be synthesized and incorporated concisely in the Executive Summary and included completely in Chapter 4, for ease of public review and preparation of the ROD(s) on the proposed actions. | |
| 74 | CF understands that the Corps and its AEIS Contractor assessed a great deal of additional data and information that further explain and support the Corps' analyses, even though they are not explicitly recognized in the DAEIS. CF requests that the Corps include that information in the FAEIS in the form of text references, additional appendices, and/or expanded bibliographies, as appropriate. For example, a great deal of information was provided regarding reclamation and mitigation techniques and results that remains unreferenced in the document. CF recommends that a reclamation appendix, at a minimum, be added to the FAEIS. Please refer to Attachment E (Reclamation Package) included herein for information specific to CF reclamation history that CF requests be incorporated into a Reclamation Appendix. Also, the versions of CF's mine, backfill, reclamation, and mitigation plans are not referenced in the bibliography, nor are the FDEP approval documents. CF requests that the documents included in Attachment D be included in the bibliography and referenced as appropriate in the text of the FAEIS. | The discussion of reclamation has been expanded considerably in the Final AEIS. The detail provided is considered sufficient to address the relevant topics/issues and comments received on the draft AEIS. |
| 92 | This section should cross reference the ground water usage/discharge appendix information. See DAEIS Appendix D. | Comment acknowledged. This discussion is focused on land use changes by development, not necessary to reference appendix at that point. |
| 103 | The Administrative Record contains the actual period of NPDES record data (10 years) for CF for inclusion in the record.<br>Please correct the use of CFI to properly reflect CF- This is a nomenclature correction needed throughout the document. | Five years were reported to be consistent with other discharge data. The AEIS team feels that that the most recent data is most applicable.<br>CFI will be changed to "CF Industries" throughout the document. |

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| 168 | This sentence should also be included in Chapter 3. | Comment acknowledged. No change made. |
| 189 | Add sentence: These are located at fertilizer plants that are not in counties where mining will occur. | Text revised. |
| 216 | The statistics presented on page 4-196 (Table 4-68) should be repeated here. | Added reference to Table in text. |
| 258 | Switch columns for Alternative Numbers 4 and 5 (typo) | The table was revised such that the row for the Wingate East Mine appears before the row for the South Pasture Mine Extension, and the alternative numbers were corrected accordingly. |
| 261 | Indicates mining on SPE will be from 2018 – 2035 – application and mine plan specify mining from 2020 – 2033. Correct references are included on Page 19, Line 18. | The table was revised to reflect the correct timelines for mining on the South Pasture Mine and the South Pasture Mine Extension. |
| 262 | 3.5 Mt/year is historical average, with 3.5-3.6 Mt/year projected for the future life of the Hardee Phosphate Complex. | The text was revised to reflect the new language suggested in this comment. |
| 267 | It should be noted that CF's North Pasture and South Pasture were originally considered as a single project as reflected in the original DRI for the property. Inclusion of 1,600 acre North Pasture misleadingly lowers the overall average mine size (which could, correspondingly, explain some of the inaccurate assumptions on pp. 32-33, noted below). | This correction has been made in the Final AEIS and the text edited accordingly. |
| 268 | The construction cost for the South Pasture Mine of $74.8 million is not correct. The approximate total cost in 2004 was oapproximately $135 million, according to CF's 2010 10K report. See Attachment E (appended to CF's Financial Assurances documentation) | This correction has been made in the Final AEIS and the text edited accordingly |
| 269 | "3.5 million tons" – 3.3 and 3.7 million tons used elsewhere | The text has been corrected as the historical average annual production capacity of the South Pasture Mine. |
| 270 | This section contains numerous errors. The DAEIS should rely on the expertise of the companies for interpretation of the mine production data, and a site-specific analysis is required. It appears as though the data reviewed for the DAEIS was not interpreted correctly. For example:<br>P. 32: the number of draglines & parcel size are not the only consideration. Many site-specific factors go into the analysis of minimum viable mine size, production rate, and estimated recoverable reserves.<br>P. 33: CF is not proposing a new plant. Additionally, the proposed production rate is 3.5 – 3.6 Mt/year not 3.7.<br>P. 33: 2.7 million tons per year is not "reasonably within range" of CF's existing production rate. CF needs a nominal annual average of 3.5 Mt/year as stated in its application. Also, 2.7 Mt/year is 77% of that figure, not 85%.<br>P. 32-33: The source of the data for the 85% figure referenced on p. 32 & 33 is | Chapter 2 and the associated discussion in Appendix B have been substantially changed and updated to clarify the approach and assumptions made and their basis. |

## CF Industries Comments and Responses

| CH2M HILL Comment Number | Comments | Response to Comment |
|---|---|---|
| | unclear.<br>P. 33: The data source for the sentence at lines 12-13 on page 33 is unclear.<br>P. 33: 9,000 tons per acre is an overly high estimate of tons per acre for CF, as recognized by the DAEIS on page 33 at lines 7-9, which undermines the conclusions at lines 10-19, at least as they pertain to CF Industries. | |
| 273 | This discussion should include the removal of "interburden (the soils located between layers of mineable ore)". | Matrix excavation involves the removal of overburden and interburden (the soils above and between the mineable ore or matrix) and subsequently the matrix in parallel excavations or cuts within a mining block. |
| 275 | The figure does not show all the USGS gauges in the CFPD. Suggest changing title to “Selected USGS Gauges. . .” | The title of this Figure in the Draft AEIS has been revised to add the word "Selected" before "USGS Gauges..." |
| 277 | A 1- to 3-ft thick layer of overburden is no longer used to cover the sand-filled mine cuts. This prior practice is no longer used by either CF or Mosaic. The current practice is to mix a small quantity of overburden into the sand tailings to improve the moisture holding capacity of the surficial soil. The small amount of overburden used does not adversely affect rainfall infiltration. | Text has been updated and corrected |
| 278 | Overburden has never been used to cap clay ponds. The uncapped clay is a highly productive soil, having both high moisture and nutrient holding capacity. With proper drainage, it is an excellent soil for either improved pasture or row crops. It also has a relatively high infiltration rate due to desiccation cracking throughout the upper several feet. Annual surface runoff from reclaimed clay areas is not much different than from typical Florida flatwoods soils | Text has been updated and corrected |
| 291 | This sentence is inconsistent with Chapter 1, page 8 through 11. | Comment acknowledged. Text is interpreted as consistent. |
| 311 | Land clearing in 2018, mining in 2020 (as of the date of the original projections). CF reports a cost of $135 million to build the South Pasture plant (annual 10-K report, page 8). This does not include draglines or the reserves purchase. | This figure has been corrected in the Final AEIS. |
| 321 | Correct/clarify CF operations – extractive vs. reclamation. | Footnote was added to Figure to reflect that the timeline includes extractive operations and reclamation operations. |
| **Surficial Geology and Soils** | | |
| 97 | AEIS should note that all four pending applications are located 20-30 miles south of Fort Meade, which is significantly less Karstic.<br>In addition, in light of current water usage by the industry and installation of recharge ditch and berm systems, lowering of the FAS or dewatering of the IFAS surficial aquifer are no longer reasonably likely to occur using modern mining methods. | The karst discussion has been revised but not to specifically state the relationship with Fort Meade. |

## CF Industries Comments and Responses

| CH2M HILL Comment Number | Comments | Response to Comment |
|---|---|---|
| **General Comments** | | |
| **Summary Comments** | | |
| **GEN-1** | **Commentors suggested acknowledging the South Pasture EIS.** | **The South Pasture EIS was acknowledged within Chapter 1 of the Final AEIS.** |
| 68 | Consider adding a sentence summarizing that the 1978 AEIS's preferred alternative was continuation of mining at "new source" mines, including CF South Pasture and Mosaic South Fort Meade, provided the preferred alternatives in subsequent site-specific EISs were consistent with the 1978 AEIS, including preservation of certain wetlands, reuse and recirculation of process water. The 1994 EIS for the South Pasture Mine NPDES Permit (and other mine EISs or EAs done to date) should also be referenced, as well as their consistency with the recommendations for alternatives in the 1978 AEIS. It should be noted that CF's Preferred Alternatives are consistent with the goals and recommendations of the 1978 AEIS. | Included in summary response above. |
| 70 | Consider adding that the final EIS approved the South Pasture Mine construction and operation, including a site-specific wetland avoidance plan and recirculation of process water, through issuance of NPDES permit no. FL0040177, which EPA concluded was consistent with the 1978 Areawide EIS. USEPA was lead agency in preparing both the 1978 and 1994 EIS documents. The Corps was a cooperating agency. | Included in summary response above. |
| **Individual Comments** | | |
| 49 | This section of the AEIS should include an analysis or at minimum a list of the mining operations that are in the same geographies during overlapping time periods (current active mines). | The currently active mines are presented on Tables 1-2 and 1-3. |
| 57 | Consider mentioning the encouragement of river mining leases sought out by Governor's office 1800's – 1920's. | Has been Incorporated into the Final AEIS historical review of phosphate mining Table 1-1 within the 1908 river mining discussion. |
| 89 | Note that the stage-filling technique (a best management practice to reduce clay footprint) and use of shared CSA walls and capacity in existing CSAs on South Pasture substantially reduce the required footprint for CSAs on the Extension. See CF South Pasture Extension Corps Application at Attachment D. | The current practice of stage filling of CSAs and the use of shared embankment (dam) walls are considered industry standards that are required to meet the State direction for reduced CSA footprints within the mine area. |
| 130 | Mining extension projects do not increase transportation burdens as the same number of vehicles and same infrastructure requirements and burdens will exist. Because of the historical development of the mining industry combined with the fact that no increases in production rates are projected, the existing highway and railroad network adjacent to the proposed mines has sufficient capacity, such that no demands on local or state governments will be required for transportation improvements. | The increase in external transportation infrastructure is not anticipated, however, the relocation or addition of infrastructure to meet the proposed mine needs for phosphate rock transportation may be needed, such as proposed for the Desoto mine. The mines using existing beneficiation plants will most likely not need increased transportation infrastructure. |

## CF Industries Comments and Responses

| CH2M HILL Comment Number | Comments | Response to Comment |
|---|---|---|
| 190 | It should also be noted that CF has capacity at its existing phosphogypsum stack through 2030 and environmental impacts of the stacks have been addressed in separate permitting. | Phosphogypsum stacks are not specifically address in the Final AEIS except as an industrial aspect of the cumulative impacts. |
| 255 | The AEIS should include examples of the 'other stakeholder groups' as mentioned throughout the entire AEIS document. | Comment acknowledged. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Executive Summary** | | |
| **Section ES.5.2** | | |
| E:1 | *Technical correction*.<br>SWFWMD has a separate category for mining water use. | Comment acknowledged. |
| E:2 | *Technical correction*. | Comment acknowledged. |
| E:3 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Comment acknowledged. |
| E:4 | *Technical correction*. | Comment acknowledged. |
| E:5 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Comment acknowledged. |
| E:6 | *Additional/updated information*.<br>See Mosaic Co., Annual Report (Form 10-K) (July 2012), which lists production capacity in metric tons. | Comment acknowledged. |
| E:7 | *Suggested clarification*.<br>Wingate East is not a replacement mine, but an extension of the Wingate Creek mine. | Comment acknowledged. |
| **Section ES.6.4** | | |
| E:8 | *Technical correction*.<br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | Comment acknowledged. |
| **Section ES.6.1** | | |
| E:9 | *Technical correction*.<br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | Comment acknowledged. |
| E:10 | *Technical correction*.<br>Several of the acreages in these tables are incorrect. See acres and linear feet tables in Attachment F. | Comment acknowledged. |
| E:11 | *Technical correction*.<br>Appendix A, pg A5-3 identifies a 500 foot setback area in the northwest corner of Wingate East as part of the Peace River "Greenway", but this area is not in the Peace River watershed.[1] Note, however, that the northeast corner of Wingate East contains a portion of the West Fork of Horse Creek, a perennial | Comment acknowledged. |

[1] Available at http://www.wildlandsconservation.org/01_downloads/Peace%20River%20Greenway%20draft.pdf.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | stream in the Peace River watershed. | |
| **Section E.S.6.2.1** | | |
| E:12 | *Suggested clarification*.<br>There is no evidence that all river systems in the watershed have experienced direct effects from a lowering of the FAS due to groundwater pumping. Systems in the southern portion of the basin are highly confined and do not communicate with the UFAS as systems in the northern portion of the District. See SWFWMD, Predicted Change in the Hydrologic Conditions along the Upper Peace River due to a Reduction in Ground-Water Withdrawals (July 2003); Predicted Change in Hydrologic Conditions along the Upper Peace River due to a Reduction in Groundwater Withdrawals (Basso, 2003); and SWFWMD, Eastern Tampa Bay Water Resource Assessment Project (1993). | Comment acknowledged. |
| E:13 | *Suggested clarification*.<br>New groundwater withdrawals or quantities are not anticipated, but future adjustments in water use and/or self-relocation of groundwater withdrawals could be needed to support future mining area extensions. | Comment acknowledged. |
| E:14 | *Suggested clarification*.<br>Although this statement is accurate, it is worth noting that these are existing permitted quantities and per District rules are not considered new quantities. | Comment acknowledged. |
| **Section ES.6.2.2** | | |
| E:15 | *Technical correction*.<br>Add term “subbasin” to match text on Page 3-77; further, this statement omits water contributions resulting from groundwater recharge. | Comment acknowledged. |
| E:16 | *Suggested clarification*.<br>The legend of these figures (and all other simulated groundwater level tables) identifies contour lines as “Drawdown Contour Lines.” These labels are potentially misleading because most of the modeling figures indicate recovery or rebound of groundwater levels. We suggest that the label be changed to “Water Level Contours” on all relevant figures. We also suggest that the Most Impact Area (MIA) be included on all contour figures. The MIA is important since it is discussed in several places within the document, such as sections 3.3.7.6, 4.4.1, and 4.12.2.2. | Comment acknowledged. |
| E:17 | *Technical correction*.<br>As demonstrated by Figure 2 of Appendix E, a portion of the northeast corner of the Wingate East is located in the Peace River Watershed. | Comment acknowledged. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section ES.6.3** | | |
| E:18 | *Technical correction*.<br>The objective of mine water management is to retain only the quantity of water necessary to operate the recirculation system. Water balance calculations show that generally 20 to 40% of rainfall within the ditch and berm system is actually captured. See Attachment A. | Comment acknowledged. |
| **Section ES.7.2** | | |
| E:19 | *Suggested clarification*.<br>Although agricultural water use has, and is expected to continue to, decrease due to land use transition coupled with SWFWMD's investment in irrigation conservation and alternative water supply projects, the SWUCA rules and cooperative funding programs look to future reductions through conservation practices of all user groups, including phosphate mining. It would be helpful to clarify that agricultural water use reductions are only are part of the reason for the increase in FAS water levels. | Comment acknowledged. |
| E:20 | *Suggested clarification*.<br>This statement is not entirely consistent with the analyses and figures within the draft AEIS which indicate that a substantial geographic area will experience water level recovery as mining operations migrate south. Therefore, removal of the phrase "albeit by relatively modest amounts" would be appropriate. | Comment acknowledged. |
| E:21 | *Suggested clarification*.<br>It is not universally true across the entire region. Areas in the southern portion of the District are highly confined and surface water flows in some of the southern systems are not related to/heavily influenced by FAS water levels.<br>See SWFWMD, Predicted Change in the Hydrologic Conditions along the Upper Peace River due to a Reduction in Ground-Water Withdrawals (July 2003); Predicted Change in Hydrologic Conditions along the Upper Peace River due to a Reduction in Groundwater Withdrawals (Basso, 2003); and SWFWMD, Eastern Tampa Bay Water Resource Assessment Project (1993). | Comment acknowledged. |
| **Section ES.7.3** | | |
| E:22 | *Suggested clarification*.<br>Need to explain the increase in flow to put in context decreased flow due to phosphate mining; maximum capture is overstated at 100%. See Attachment A. | Comment acknowledged. |
| E:23 | *Technical correction*.<br>27/200 = 13.5% However, the analysis needs updating in accordance with surface water capture discussion, in Attachment A. | Comment acknowledged. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Chapter One** | | |
| **Section 1.1.1** | | |
| 1:1 | *Technical correction*.<br>No producers in the CFPD currently make purified acid for food or industrial processes. | Revised as noted. |
| **Section 1.1.2** | | |
| 1:2 | *Suggested clarification*.<br>Two of the proposed mining areas (Wingate East and South Pasture Extension) are extensions of existing mines. | Clarification provided in Section 1.1.1. |
| **Section 1.1.3.4** | | |
| 1:3 | *Suggested clarification.*<br>The phrase "allow reclamation refunds on severance taxes" does not accurately describe the program. | This section was renamed to "Changes in State and Federal Permitting in the CFPD" to reflect that this section is describing the establishment of various regulatory programs, and language in this section is clarified. A sentence is also added to refer readers to Section 1.5 on required permits. |
| 1:4 | *Additional/updated information*.<br>This section as originally written appears to suggest that there are few regulations pertaining to phosphate mining, and thus additional information is warranted. | This section was renamed to "Changes in State and Federal Permitting in the CFPD" to reflect that this section is describing the establishment of various regulatory programs, and language in this section is clarified. A sentence is also added to refer readers to Section 1.5 on required permits. |
| **Section 1.2.1.1** | | |
| 1:5 | *Suggested clarification*. | Acknowledged. Production discussed in another paragraph and is not included here. |
| 1:6 | *Suggested clarification.*<br>The importance of Florida phosphate mining to domestic and world production can be better supported by reference to Nyiri (2010). | Acknowledged. Nyiri (2010) is referenced in Chapter 1. |
| 1:7 | *Correction to reference/citation*.<br>There is a citation to "(Naira, 2010)" but this source is not included in the list of references in Chapter 7. | The reference was corrected to Nyiri (2010). |
| 1:8 | *Suggested clarification.*<br>A sentence should be added to this discussion to better explain the relationship between the proposed mines and the mines that that will be closing in the near future. | Clarification is provided. |
| 1:9 | *Suggested clarification.*<br>The U.S. does not export phosphate rock, but it does export processed phosphate products. | The text was clarified to distinguish between phosphate rock and phosphate products. |
| 1:10 | *Additional/updated information*. | Comment acknowledged. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 1:11 | *Correction to reference/citation*.<br>There is a citation to "(Lifton, 2011)" but this source is not included in the list of references in Chapter 7. | The reference was added. |
| 1:12 | *Suggested clarification.*<br>Section 1.2.1 has no text. The referenced material appears in the immediately preceding paragraphs of the same section (1.2.1.1).<br>Regarding this statement, see also Van Kauwenbergh, Steven J., September 2010, World Phosphate Rock Reserves and Resources, IFDC; and Heffer, Patrick, Medium-Term Outlook for World Agriculture and Fertilizer Demand 2011/12 – 2016/17, International Fertilizer Industry Association (IFA). | Text is revised. |
| 1:13 | *Additional/updated information*.<br>The best source for annual rock production and operational capacity is Mosaic's most recent Form 10-K, which was filed on July 17, 2012.[2] Using this data, the "Estimated Annual Rock Production" and converting it from metric to short tons, for Mosaic's operating mines should be as follows: Four Corners–7.4 million tonnes (8.2 million tons (Mt); Hooker's Prairie– 2.1 million tonnes (2.3 Mt); South Fort Meade–5.0 million tonnes (5.5* Mt); Wingate Creek 1.4 million tonnes (1.5 Mt).[3] * Note: The annual report lists South Fort Meade at 1.2 million tonnes (1.3 Mt) for the past year due to slow-downs attributed to litigation, however, it is expected to produce 5.0 million tonnes (5.5 Mt) with normal operation. | The data reflects that provided by Mosaic and CF Industries in January 2012. We acknowledge that these numbers will change from year to year. |
| 1:14 | *Technical correction*.<br>The statement in Note about South Fort Meade's production being limited by clay content is incorrect. | Revised as noted. |
| **Section 1.2.1.2** | | |
| 1:15 | *Correction to reference/citation*.<br>A Florida Industrial and Phosphate Research Institute report is referenced on Page 1-13, Line 3, but there is no corresponding citation. Likewise, this report is not included in the list of references in Chapter 7. | Reference corrected. |
| 1:16 | *Additional/updated information*.<br>As stated in *ECONorthwest, Net Economic Impacts of Phosphate Mining*, at 2 (Oct. 18, 2011), this average income figure has increased since 2004. | Clarification is provided. |

[2] Available at http://www.sec.gov/Archives/edgar/data/1285785/000119312512304472/d356870d10k.htm.

[3] The 10-K lists annual operational capacity and annual production in metric tonnes. This comment reflects those numbers converted to short tons. To convert from the metric tonnes in the 10-K to short tons, multiply the metric tonnes by a factor of 1.1.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 1:17 | *Correction to reference/citation*.<br>There is a citation to "Florida Phosphate Council's 2004 fact sheet" on Page 1-13, Lines 13 and 27, but this source is not included in the list of references in Chapter 7. There is, however, a reference to the 2003 fact sheet in Chapter 7, but the 2003 fact sheet is cited nowhere in the AEIS. | Reference corrected |
| 1:18 | *Additional/updated information*.<br>As stated in *ECONorthwest, Net Economic Impacts of Phosphate Mining*, at 11-12 (Oct. 18, 2011), there are other important direct impacts that are omitted from this discussion. | The text was revised. |
| 1:19 | *Suggested clarification.*<br>Shipping rates have recently varied. | The text was revised. |
| 1:20 | *Correction to reference/citation*.<br>There is a citation to "(BREA, 2002)" but this source is not included in the list of references in Chapter 7. | Reference corrected. |
| **Section 1.2.2.1** | | |
| 1:21 | *Technical correction*.<br>Wingate East tract is an extension of the Wingate Creek mine that will not require a separate beneficiation plant. | The sentence was corrected. |
| **Section 1.3** | | |
| 1:22 | *Technical correction*. | The text is clarified. |
| 1:23 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | The sentence was corrected. |
| 1:24 | *Technical correction*.<br>As shown, for example, in Figure 1-3, a small western portion of Ona is located in the Myakka River Watershed. | The sentence was corrected. |
| 1:25 | *Technical correction*. | The sentence was corrected. |
| 1:26 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | The sentence was corrected. |
| 1:27 | *Technical correction*.<br>As shown, for example, in Figure 1-3, a small eastern portion of Wingate East is in the Peace River Watershed. | The sentence was corrected. |
| 1:28 | *Additional/updated information*.<br>See Mosaic Co., Annual Report (Form 10-K) (July 2012). | Comment acknowledged. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 1:29 | *Technical correction*.<br>Wingate East is an extension of the Wingate Creek mine, not a new or replacement mine. | The text is clarified. |
| 1:30 | *Technical correction*.<br>See Attachment F. | The sentence was corrected. |
| 1:31 | *Suggested clarification.*<br>The table's title says that it reflects "Affected" wetlands and streams, but its data reflects total onsite wetlands and streams. See acres and linear feet tables in Attachment F. | The title is changed. |
| **Chapter Two** | | |
| **Section 2.2.2** | | |
| 2:1 | *Suggested clarification.*<br>The acres shown on Figure 2-2 may give a false impression to the public that there are more permitted reserves (and many years of mining that could occur in a no action alternative) than there are. Kingsford and Hopewell reserves are both depleted and closed. | The acres shown are full mine acres many of which are nearly depleted of phosphate, and some that no longer have a processing plant. |
| 2:2 | *Technical correction*.<br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | Table has been updated based on the Public Notices published on June 1, 2012. |
| **Section 2.2.3** | | |
| 2:3 | *Suggested clarification.*<br>Buffer considerations should include more review of potential impacts and whether the buffer would actually help, for example, potential reduction in flood storage capacity, potential reduction in flood flow conveyance capacity, potential water quality degradation, or wildlife use. Additionally:<br>Floodplain buffers do not equate to significant wildlife or aquatic habitat but rather vary widely on a site-specific basis;<br>Mining prohibitions in these buffers ignore the fact that phosphate mining areas create significant volumes of additional flood storage capacity;<br>Phosphate mine operators have the capability to construct alternate channels to convey flood flows at rates comparable to existing floodways;<br>Phosphate mine water recirculation systems have been proven to provide water quality treatment capacity sufficient to ensure water quality standards are met at the point of discharge.<br>See Attachment B for more detailed information. | The discussion in chapter 2 related to buffers has been replaced with a discussion of a mitigation framework in chapter 5. The text related to greenways and other types of buffers has been removed from chapter 2. The discussion of avoidance criteria for streams has been replaced by a broader discussion of mitigation framework in chapter 5 of the Final AEIS. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 2.2.3.2** | | |
| 2:4 | *Additional/updated information*.<br>Include definitions of intermittent and perennial streams. | The appropriate text based upon the definitions for stream types provided by the USACE in their reissuance of the Nationwide Permits in the Federal Register, February 16, 2011 has been provided in the Final AEIS. |
| **Section 2.2.3.3** | | |
| 2:5 | *Additional/updated information*.<br>Clarify the purpose of the Peace River Greenway. | |
| **Section 2.2.4.2** | | |
| 2:6 | *Suggested clarification.*<br>Applicability of alternatives review under NEPA and 404(b)(1) should be distinguished because NEPA directs the AEIS, while the 404(b)(1) assessment involves a different use of alternatives for permit application review. One of the ways that the alternatives analysis differs is that under NEPA, a wider array of "reasonable" alternatives may be presented, since the NEPA alternatives are not limited to what is practicable in light of particular project purposes. | Comment noted but text not changed. |
| 2:7 | *Suggested clarification.*<br>Mining can only occur where reserves are located. | Text accepted as proposed |
| 2:8 | *Suggested clarification.*<br>See Attachment B, which addresses additional screening criteria including prospect data information. | Text in the Final AEIS has been updated to note that prospecting data were provided for most alternative locations after the Draft AEIS had been published. The offsite alternatives analysis has been updated in the Final AEIS to reflect these new data. |
| **Section 2.2.4.3** | | |
| 2:9 | *Suggested clarification.*<br>SWFWMD labeling most of the current and historic mines in the CFPD as "Extractive" may be misleading and understate reclaimed lands. The National Land Cover Database (NLCD) is a better GIS coverage for land use in the CFPD. | A footnote has been provided in the Final AEIS to note the difference between the alternative data sets for land-use classification. To the extent appropriate, it has been noted that FLUCCS data may underestimate the amount of lands reclaimed or restored following mining. |
| 2:10 | *Technical correction*.<br>A parcel 600 acres in size would not be large enough for clay settling area construction, and therefore the reference to a CSA on a potential in-fill parcel should be omitted. There would, however, have to be sufficient extra clay storage capacity in existing/approved CSAs to accommodate additional outparcel mining. | Text has been accepted as proposed. |
| 2:11 | *Suggested clarification.*<br>The assumptions in this section that a 9,000-mineable acre site is necessary for a new mine and that each acre contains 9,000 tons per acre are reasonable in general for a small mine, but may not be appropriate in every case. We suggest that these assumptions be better explained and qualified. | The Final AEIS has been modified to note that alternatives of the size proposed are for the smallest that could be considered for mining and that on a case-by-case basis after more detailed prospecting data were collected the phosphate characteristics and other factors might preclude these alternatives from being acceptable as future mines. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 2:12 | *Additional/updated information*.<br>It is important to note that the assumption about the minimum production capacity necessary to support a beneficiation plant is based on information from CF that is not necessarily applicable to Mosaic's operations, nor sufficient to meet Mosaic production needs. | Comment noted but text not changed. |
| **Section 2.2.4.8** | | |
| 2:13 | *Suggested clarification*.<br>It is recommended that the three components of wetlands be provided as well as that the most accurate method of making these determinations is through actual field work. | Comment noted but text not changed. |
| 2:14 | *Suggested clarification*.<br>Additional clarification needed to provide full understanding of what was done and why. | Comment acknowledged. The sentence after which the requested insert would have been made is no longer present in Chapter 2 of the AEIS. |
| 2:15 | *Technical correction*.<br>It may be an oversight, but the screening analysis appears to only include hydric soils data, not wetlands. While the hydric soil coverage is probably the best indicator of potential wetland extent (because soil survey data is extensively ground-truthed), the text indicates it is based on a combination of hydric soils and wetland FLUCFCS. In review of the shape files for Fig. 2-21 we could not confirm the use of any FLUCFCS data. In the alternative to changing the map title, we suggest updating the map to reflect the intersection of hydric soils and FLUCFCS wetland data (e.g., NWI). This will have a corresponding impact on Tables 2-9 and 2-18. If wetland data is not used, the text on pages 2-42 and 2-43 will also need to be amended. | Merged data for the SWFWMD FLUCCS wetlands codes and hydric soils was used. No change needed in text. |
| 2:16 | *Technical correction*.<br>As with the map in Figure 2-21, the data for Table 2-9 appears to only represent hydric soil information, no FLUCFCS data. In the alternative, update the map and table to reflect the intersection of hydric soils and the FLUCFCS wetland data (e.g., NWI). | Comment noted but no change in text made. |
| 2:17 | *Suggested clarification.*<br>The IHN is more of a planning tool for reclamation than a regulatory tool to denote areas of preservation. | Comment noted but no change in text made. |
| 2:18 | *Additional/updated information*. | Comment noted but no change in text made. |
| 2:19 | *Suggested clarification.*<br>IHN considerations are not necessarily just based on presence/ absence or how much. The FDEP's documentation in support of the IHN clearly states its purpose is to guide reclamation planning, not as a basis for determining | Table revised to reflect the correct acreages. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | preservation. The example may be helpful to make that more clear. | |
| **Section 2.2.5.1** | | |
| 2:20 | *Technical correction*.<br>This sentence does not accurately reflect the dredge system and dragline characteristics. | Comment noted but text not changed. |
| 2:21 | *Suggested clarification.*<br>There is not "more water" to be "managed." | Section has been updated as proposed. |
| **Section 2.2.5.3** | | |
| 2:22 | *Technical correction*.<br>Taking imported rock by barge from the Port of Tampa to inland fertilizer plant(s) is not feasible or practicable (there are no inland waterways). It is also worth noting that the rail system would require upgrades to handle incoming rock, as well as the current loads of processed phosphate products. | Comment noted but text not changed. |
| 2:23 | *Technical correction*.<br>Consistent with the preceding comment, references to barges should be replaced by references to rail cars and trucks in the discussion of alternatives. | Text has been modified as proposed. |
| 2:24 | *Technical correction*. | Text has been modified but not as proposed. |
| 2:25 | *Additional/updated information*.<br>This statement should be revised in light of recent developments regarding South Fort Meade.<br>The significant reliability and security concerns associated with dependence on phosphate rock from foreign countries may be understated in light of recent events and for the reasons outlined in the Nyiri Report at 7-12. | Text has been modified to note the unreliability of phosphate rock imported from Morocco and other areas. Additional detail not considered necessary. |
| **Section 2.3** | | |
| 2:26 | *Additional/updated information*. | Comment noted but text not changed. |
| **Section 2.4** | | |
| 2:27 | *Technical correction*.<br>As with Table 2-9, this column appears to represent hydric soil acreage only, without FLUCFCS data. Either the acres should be adjusted to represent the combination of wetlands and hydric soils, or the column heading should be changed. | No change in text made. |
| 2:28 | *Technical correction*.<br>It appears that the acres in this table may have been separately generated through a GIS exercise rather than using information available in the applications. See acres and linear feet tables in Attachment F. | Tables have been updated based upon information provided. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Chapter Three** | | |
| **Section 3.1.1** | | |
| 3:1 | *Technical correction*.<br>This statement does not mention that groundwater recharge is one of the primary functions of a ditch and berm system. | Comment accepted with minor rewording |
| **Section 3.1.3** | | |
| 3:2 | *Technical correction*.<br>In mining terminology, the ore is the matrix. Once it is beneficiated and destined for the fertilizer plant, it is referred to as phosphate rock. The "ore" is moved via pipelines. | Agreed |
| 3:3 | *Suggested clarification.*<br>SWFWMD has a separate category for mining water use. | Agreed |
| **Section 3.1.4** | | |
| 3:4 | *Suggested clarification*<br>Decades implies a much longer period. | Comment acknowledged but not incorporated. |
| 3:5 | *Additional/updated information*.<br>Modern design and operation decreases CSA area. | Comment acknowledged but not incorporated. |
| 3:6 | *Technical correction*.<br>It is not correct to state that there is a lower clay percentage in the southern portion of the CFPD. Clay content is variable across the CFPD. | Comment acknowledged but not incorporated. |
| **Section 3.1.5** | | |
| 3:7 | *Typographical error*.<br>The Florida Industrial and Phosphate Research Institute is referenced as (FIPRI) but is properly referred to as (FIPR). Even though the name has changed, they have maintained the same acronym. | Comment accepted. |
| **Section 3.3.1.3** | | |
| 3:8 | *Suggested clarification.*<br>This sentence does not accurately reflect reclamation practices. | This paragraph was removed during editing because it is in Chapter 4. |
| 3:9 | *Suggested clarification.*<br>The Group D soils need this additional clarification for accuracy, and consistency with explanation on Line 28. | Comment acknowledged. Water table is included in following paragraph to list. |
| 3:10 | *Suggested clarification.* | Comment accepted with some minor rewording. |
| 3:11 | *Additional/updated information*.<br>The Soil Hydrologic Group Classification for soils in the CFPD counties was updated between 2010 and 2012. Therefore the citation/ data could be | Comment acknowledged but not included. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | updated accordingly. See also Comment 3:13, below. | |
| 3:12 | *Technical correction*.<br>Although the soils are sandy, due to the high water table, particularly in the southern portion of the CFPD, they are poorly drained soils Note also, the drainage class cannot be derived from SHG data, but must be obtained from the SSURGO field called DRAINAGECL.<br>Links to the SSURGO and other pertinent information on soils can be found in the Citation List in Attachment E. | Comment accepted. |
| 3:13 | *Additional/updated information*.<br>For information: Updates including some changes to the Soil Hydrologic Group (SHG) classification are in the process of being posted to the SSURGO dataset based on new SHG methodology in the updated National Engineering Manual. The update process is not complete, creating a distinct boundary between Hardee and Manatee Counties caused by a lag for Polk and Hardee counties. The AEIS may want to acknowledge that the classifications presented in the document are undergoing active revision. | Comment acknowledged but not included. |
| 3:14 | *Suggested clarification.* | Comment acknowledged and made change. |
| 3:15 | *Additional/updated information*.<br>Farmland classification information is available as a GIS dataset in the SSURGO dataset under the field heading FRMLNDCL.<br>Links to the SSURGO can be found in the Citation List in Attachment E. | No changes were made related to this paragraph. New Table was included. |
| 3:16 | *Suggested clarification.*<br>The significance of this classification to the CFPD is not discussed nor is any AFT data provided in the DAEIS. No GIS data is available for download from AFT. The AFT definition of high-quality farmland incorporates NRCS farmland designation data, but places greater emphasis on climatic factors than soil factors and therefore all non-urban private land south of Interstate 4 is classified as high quality farmland by AFT. | Deleted section. |
| 3:17 | *Suggested clarification.*<br>With respect to the DAEIS Table 3-2 – instead of listing every map unit in every county of the CFPD, it would be more efficient and useful to only list the soil map units that are classified as Farmland of Unique Importance. It is understood that the other map units are not designated. Also note, the header of Table 3-2 in the DAEIS called soil order is not correct. The data presented is soil series, not soil order; however soil series are not designed as Prime or Unique Farmland. The field header called Taxonomic Class should more correctly be titled Taxonomic Great Group, but the field is of questionable usefulness as Prime or Unique farmland is not determined by taxonomic | Table was revised. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | classification. The hydric rating is of limited usefulness, since both hydric and non-hydric soils can be classified as Farmland of Unique Importance – unless this is included for another unspecified reason. Drainage class is also not a determining factor for unique farmland classification, and could be removed unless included for another unspecified reason. Neither the Acreage nor the Percent of Total values are correct because the table references soil series, not soil map units. For example, the Myakka Series is a component of nine individual Myakka map units in the CFPD, however, only four Myakka map units are designated as unique farmland. Also the footnotes at the bottom of Table 3-2 are not entirely correct since they have no relationship to the unique farmland classification. | |
| 3:18 | *Suggested clarification.*<br>The objective of mine water management is to retain only the quantity of water necessary to operate the recirculation system and because it does not acknowledge contributions from NPDES outfalls and groundwater recharge from the ditch and berm system.<br>See Attachment A for more information. | Chapter 3 sentence changed from "only released from NPDES outfalls" to "acknowledge seepage". |
| 3:19 | *Technical correction*.<br>Rainfall has not been shown to be dependent on these variable levels of interactions. | Comment accepted |
| 3:20 | *Additional/updated information*.<br>Suggested revision more accurately reflects what may occur should Flatford Swamp water be delivered to Mosaic. | Comment acknowledged. This portion of text was reworded. |
| 3:21 | *Suggested clarification.*<br>It is more accurate to say "could" than "would." | Comment accepted |
| **Section 3.3.2.2** | | |
| 3:22 | *Suggested clarification.*<br>Stream systems in the southern portion of the basin are highly confined and do not communicate with the UFAS as systems do in the northern portion of the District, and thus do not experience the same direct effects from UFAS groundwater pumping. | Comment acknowledged. This paragraph was reworded. |
| 3:23 | *Additional/updated information*.<br>To provide context to the introductory discussion of the groundwater systems, it would be helpful to note that the proposed mines are located in areas where the IAS confining beds are relatively thick and less permeable. | Comment accepted with minor rewording. |
| 3:24 | *Technical correction*. | Comment acknowledged. This portion of the AEIS was reworded to capture this comment. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 3:25 | *Technical correction*.<br>See *Polk Chronicles: Kissengen Spring Was Spot For Fun*, The Ledger (Aug. 23, 2011)[4]; SWFWMD Predicted Change in the Hydrologic Conditions Along the Upper Peace River due to a Reduction in Groundwater Withdrawals (July 2003); and in an older USGS report, H.M. Peek, "Cessation of flow of Kissengen Spring in Polk County, Florida," Water resource studies: Tallahassee, Florida Geological Survey Report of Investigations 7, p. 73-82 (1951). | Comment accepted |
| **Section 3.3.2.3** | | |
| 3:26 | *Technical correction*.<br>To settle the perception of phosphate industry water use, the AEIS should cite the most recent (2010) SWFWMD Water Use Report denoting groundwater withdrawals in the District attributable to phosphate mining. | Comment accepted with minor rewording. |
| 3:27 | Additional/updated information.<br>This revised statement is clearer and is consistent with Metz and Lewelling's statement on page 78 of their report: "The May 2007 potentiometric-surface map of the Upper Floridan aquifer indicates a rise in aquifer water levels from the 1975 levels, but levels remain as much as 30 ft below the Peace River floodplain elevation. Although groundwater levels have increased since the days when mining operations used more water, the levels have not fully recovered, because there has been a redistribution of some of the pumping stresses due to population growth and agricultural expansion in the Southern West-Central Florida Groundwater Basin." | Revised to read: Pre-1975 groundwater withdrawal from which the underlying aquifers have not fully recovered |
| 3:28 | *Suggested clarification.*<br>None of the proposed mines are within the Charlie Creek watershed. | Comment acknowledged. A similar statement was added. |
| 3:29 | *Additional/updated information*.<br>As described more fully in Kiefer et al (2011), many of the conclusions in the Bacchus et al (2011) presentation are not considered to be correct. The text should acknowledge these differing views and recognize that Kiefer et al provides more reliable information. | Comment acknowledged. The discussion of past mining effects on aquifer systems has been revised. |
| **Section 3.3.2.4** | | |
| 3:30 | *Additional/updated information*.<br>Although the depth to the water table for basins reclaimed using clay or sand-clay mixtures is generally greater than in other basins, these areas are generally former CSAs that are also higher in elevation than the original land surface, and thus that is what would be expected. | Comment accepted with minor rewording. |

[4] Available at http://www.theledger.com/article/20110823/COLUMNISTS/108235000?p=2&tc=pg&tc=ar.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 3.3.2.5** | | |
| 3:31 | *Additional/updated information*.<br>Provide data exemplifying the volume of water discharged from mine sites.<br>See Attachment A. | Comment acknowledged. The AEIS team elected not to include this information because it could not be independently verified. However, these results were considered in modifying Chapter 4 and Appendix G analyses. |
| 3:32 | *Technical correction*.<br>This statement omits water contributions resulting from groundwater recharge. | Comment accepted with minor rewording. |
| **Section 3.3.3.1** | | |
| 3:33 | *Additional/updated information*.<br>This section lists water bodies within CFPD watersheds that are designated as Outstanding Florida Waters, but it is incomplete. We suggest deleting the bullet point reference to "Little Manatee River" on Line 23 because the entire river is not an OFA listing in Rule 62-302.700(9) and adding other relevant water bodies that are covered by the rule. | Comment accepted. |
| 3:34 | *Suggested clarification*.<br>Table 3-8 and the preceding description imply that current phosphate mining practices may be contributing to nitrogen levels in Thirty Mile Creek. As noted on Page 4-198, Lines 1-9, changes in beneficiation plant processes have reduced nitrogen discharges. | Comment accepted with minor rewording. |
| 3:35 | *Suggested clarification*.<br>We recommend that Table 3-8 and Figure 3-34 be revised in the Final AEIS to list and illustrate the water bodies and basins that have been verified as impaired by FDEP, as well as the water bodies and basins that were determined by FDEP as not impaired. Doing so would support the analysis of water quality effects in Chapter 4. | Comment acknowledged. The text states that these tables and figures are updated periodically by the FDEP. Section was reworded to address comment. EPA had comments on Appendix D, related to putting more emphasis on 303(d) list. The text tends to point to TMDLs as the most important measure. |
| 3:36 | *Additional/updated information*. | Comment acknowledged. The AEIS presents a summary of the conclusions presented in the USGS report. Additional interpretation was not added. |
| 3:37 | *Correction to reference/citation*.<br>There is a citation to "(PBSJ, 2009)" but this source is not included in the list of references in Chapter 7. | Comment accepted. |
| 3:38 | *Additional/updated information*.<br>The discussion in this paragraph does not reference the primary reason for the drop in phosphorous concentration in Peace River during this time. | Comment accepted with minor rewording. |
| 3:39 | *Additional/updated information*.<br>The discussion of future water quality effects does not mention the comprehensive regulatory structure in place to maintain surface water quality. | Comment accepted with minor rewording. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 3.3.4.2** | | |
| 3:40 | *Additional/updated information*.<br>Additional information from the FDEP (2009) report is relevant. | Comment acknowledged. Conclusions regarding the scores of sites that drain phosphate mining areas were purposefully not made because this was not addressed by the FDEP study and because the potential influence of other non-mining factors cannot be known without further study. |
| **Section 3.3.4.3** | | |
| 3:41 | *Suggested clarification*.<br>Mosaic believes it is important to acknowledge the fact that over 100 years of phosphate mining in the CFPD has not diminished the Charlotte Harbor estuarine system's status as one of the state's most productive estuaries. | The text has not been modified. |
| **Section 3.3.5** | | |
| 3:42 | *Suggested clarification.*<br>The National Land Cover Database is a better GIS coverage for mined/ reclaimed portions of the CFPD. See Comment 2:9 for more explanation. | The referenced discussion has been revised to note that the 2009 SWFWMD FLUCCS mapping under estimates land uses/habitats created through reclamation. |
| **Section 3.3.6** | | |
| 3:43 | *Additional/updated information*.<br>It is important to recognize that agricultural lands are important habitat cover types for some species, such as caracaras and burrowing owls. | The section has been revised to acknowledge that some types of pasturelands provide habitat for certain wildlife species. |
| **Section 3.3.6.1** | | |
| 3:44 | *Additional/updated information*.<br>In accordance with 50 C.F.R. § 402.12, it is important to make note of species that have been proposed for listing that may be present in the study area, to be comprehensive. | The gopher tortoise is acknowledged as being state listed as Threatened. |
| **Section 3.3.6.2** | | |
| 3:45 | *Correction to reference/citation*.<br>There is a citation to Mushinsky, McCoy, and Kluson (1996) but this source is not included in the list of references in Chapter 7. | The reference has been added to Chapter 7. |
| 3:46 | *Correction to reference/citation*.<br>The existing text cites Mushinsky, McCoy, and Kluson (1996), but Mushinsky, McCoy, and Kluson (2001) provides relevant support and should be cited as well. | The Mushinsky et al., 2001 was discussed and referenced in the Draft AEIS but the reference was placed at the end of the discussion. The section has been revised to reference this study when first mentioned. |
| 3:47 | *Correction to reference/citation*.<br>There is a citation to Mushinsky, McCoy, and Kluson (2001) but this source is not included in the list of references in Chapter 7. | The reference has been added to Chapter 7. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 3.3.7** | | |
| 3:48 | *Additional/updated information*.<br>See "Mosaic's Inaugural Online Grant Round Makes Florida a Priority" (May 2012)[5] for Mosaic's contributions and the "Examples of Civic Organizations which Mosaic Partners with Throughout Our Operating Areas". | The text has not been modified. |
| **Section 3.3.7.7** | | |
| 3:49 | *Technical correction*.<br>Uranium and phosphate are formed in different processes; uranium is an element and is not formed by geophysical processes. In contrast, phosphate is an inorganic chemical composed of phosphorus and oxygen. | This section has been clarified. |
| 3:50 | *Suggested clarification*.<br>Activities of 1-2 pCi/g are common range, not an absolute value. | Concur. Comment incorporated. |
| 3:51 | *Typographical error*.<br>NORM stands for "**Naturally** Occurring Radioactive Materials." | Concur. Comment incorporated. |
| 3:52 | *Suggested clarification*.<br>Stating annual dose in Florida versus U.S. provides a helpful comparison. | Concur. Comment incorporated. |
| 3:53 | *Typographical error*.<br>TENORM stands for "**Technologically** Enhanced Naturally Occurring Radioactive Materials." | Concur. Comment incorporated. |
| 3:54 | *Suggested clarification*. | Comment acknowledged but not included. |
| 3:55 | *Suggested clarification*.<br>It is important to communicate that there is considerable variation in both pre- and post-mined radium values and that the 1-2 pCi/g range represents an average value, whereas the 20 to 45 pCi/g values are outlier, individual data points. | This entire section has been clarified. |
| 3:56 | *Suggested clarification*.<br>This additional information helps put EPS's maximum recommended annual dose in context. | Added reference, but revised suggested wording. |

[5] Available at http://mosaicfla.com/media/9361/mos-0401-community_investment_fact_sheet_final.pdf.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 3.3.7.8** | | |
| 3:57 | *Additional/updated information*.<br>It would be helpful information to the reader to provide additional examples mine reclamation efforts. | Updated with most of suggested text. |
| **Chapter Four** | | |
| **Section 4.2.1** | | |
| 4:1 | *Additional/updated information*.<br>It is noted on Page 3-115, Line 30, that the U.S. Fish and Wildlife Service's scoping comments stated that impacts to certain listed species should be considered in the AEIS. This reference to the listed species databases is needed for response completeness. | The species that commonly occur in the CFPD based on past surveys conducted by the phosphate industry are included in Chapter 3.3. The USFWS confirmed the species they thought we should address in the AEIS. |
| **Section 4.2.1.1** | | |
| 4:2 | *Correction to reference/citation*.<br>There is a citation to "(FFWCC, 2009)" but this source is not included in the list of references in Chapter 7. | Not applicable as this citation does not exist in the final AEIS. |
| **Section 4.2.1.2** | | |
| 4:3 | *Typographical error*. | Not applicable as the referenced text does not exist in the final AEIS |
| om4:4 | *Suggested clarification*.<br>Both CLIP and IWHRS recommend acknowledgement of their limitations in the event of use, particularly for uses for which they were not originally designed.<br>Oetting, Jon, Tom Hoctor Beth Stys, Critical Lands and Waters Identification Project (CLIP): Version 2.0 Technical Report, January 2012. | CLIP Wetland layer is only used in the Final AEIS to estimate the quality of wetlands for offsite alternatives. |
| **Section 4.2.2** | | |
| 4:5 | *Additional/updated information*. | Comment incorporated. |
| 4:6 | *Technical correction*.<br>SWFWMD has a separate category for mining water use. | Comment incorporated. |
| 4:7 | *Typographical error*.<br>The correct version of the District-Wide Regulatory Model is **Version 2.1** (not Version 2). | Corrected throughout the document. |
| 4:8 | *Technical correction*.<br>Ona will utilize withdrawals that have already been permitted. | Comment incorporated. |
| **Section 4.2.2.1** | | |
| 4:9 | *Suggested clarification*. | Don't agree that it's necessary to describe the WUP permit issues in this context. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 4.2.2.2** | | |
| 4:10 | *Additional/updated information*.<br>There are a variety of reasons why actual pumping rates have been less than permitted rates. Some additional detail would provide clarification. | Comment acknowledged but it is not necessary to describe the WUP permit issues in this context or to highlight steps taken by the industry to reduce groundwater use. |
| 4:11 | *Suggested clarification*.<br>These sentences do not adequately characterize the SWUCA recovery strategy. We suggest revising this text more closely track the language used by SWFWMD. | Comment incorporated. |
| **Section 4.2.3** | | |
| 4:12 | *Technical correction*.<br>As is demonstrated by, for example, Figure 2 of DAEIS Appendix E, a portion of the northeast corner of the mine is located in the Peace River Watershed. | Comment accepted and modified the sentence. |
| 4:13 | *Additional/updated information*.<br>See Attachment A. | Section moved and reworded. |
| 4:14 | *Technical correction*.<br>As substantiated by Dr. Garlanger in Attachment A and as reflected in Table 3-6, it not accurate and overly conservative to assume that 100% of the stormwater on actively mined areas is captured and incorporated into the mine recirculation system. | This section was rewritten and a 50% capture scenario added. |
| **Section 4.2.4.2** | | |
| 4:15 | *Additional/updated information*.<br>With respect to phosphate value, see paragraph 4 in Attachment D. | The Final AEIS has been revised to reflect the Phosphate Value from the Global Trade Atlas the source of the Data is U.S. Department of Commerce, Bureau of Census and other sources. |
| 4:16 | *Technical correction*.<br>The assumption that plants will be constructed over a 10-year period is not correct. | Comment Acknowledged. Text indicating that construction of facility will be over a 10 year period has been deleted. The average annual expenditure over the decade of $100 Million per year continues to be used in the analysis. |
| 4:17 | *Technical correction*.<br>PCS Phosphate is the only active operator in Hamilton County. The seven-year average production capacity may be misleading because one of the two mines operating in Hamilton County has been depleted and closed, with only the Swift Mine currently operating. Over the seven year period between 2005 through 2011, the PCS Swift Creek Mine in Hamilton County averaged 2.79 million tonnes of production. See, Potash Corporation of Saskatchewan Inc., Annual Report (Form 10-K), at 7 (Feb. 27, 2012). | Comment Acknowledged. Analysis was revised to reflect production at the Swift Creek mine in Hamilton County during the forecast period. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 4.3.1** | | |
| 4:18 | *Additional/updated information*.<br>The best source for annual rock production and operational capacity is Mosaic's most recent Form 10-K, which was filed on July 17, 2012.[6] Using this data, the "Estimated Annual Rock Production" and converting it from metric tons to short tons, for Mosaic's operating mines should be as follows: Four Corners/ Lonesome–7.4 million tonnes (8.2 million tons (Mt)); Hooker's Prairie– 2.1 million tonnes (2.3 Mt); South Fort Meade–5.0 million tonnes (5.5* Mt); Wingate Creek 1.4 million tonnes (1.5 Mt.)[7] * Note: The annual report lists South Fort Meade at 1.2 million tonnes (1.3 Mt) for the past year due to slow-downs attributed to litigation, however, it is expected to produce 5.0 million tonnes (5.5 Mt) with normal operation. [8].[9]<br>The assertion that production is limited by clay content is incorrect Accordingly, note d is not accurate. | This comment is no longer relevant has been removed from the AEIS. |
| **Section 4.3.2** | | |
| 4:19 | *Technical correction*.<br>Several of the acreages in this table are incorrect. See acres and linear feet tables in Attachment F. | The referenced table is no longer in Chapter 4 in the final AEIS. This table is in Chapter 2 and the numbers have been updated per the USACE-approved JDs. |
| 4:20 | *Technical correction*.<br>Several of the figures in these tables are incorrect. See acres and linear feet tables in Attachment F. | The referenced tables are no longer in Chapter 4 in the final AEIS. The first table is in Chapter 2 and the numbers have been updated based on the approved JDs. |
| **Section 4.3.2.1** | | |
| 4:21 | *Technical correction*.<br>If waters are non-jurisdictional, they are not waters of the U.S. | Not applicable as the referenced text does not exist in the final AEIS. |
| 4:22 | *Suggested clarification*.<br>Actual conditions would be more understandable with these clarifications: (1) that wildlife impacts are temporary and/or minor and (2) that the ditch-and-berm system will diminish potential impacts to downstream water quality and | Not applicable as the referenced text does not exist in the final AEIS. |

[6] Available at http://www.sec.gov/Archives/edgar/data/1285785/000119312512304472/d356870d10k.htm.

[7] The 10-K lists annual operational capacity and annual production in metric tonnes. This comment reflects those numbers converted to short tons. To convert from the metric tonnes in the 10-k to short tons, multiply the metric tonnes by a factor of 1.1.

[8] Available at http://www.sec.gov/Archives/edgar/data/1285785/000119312512304472/d356870d10k.htm.

[9] The 10-K lists annual operational capacity and annual production in metric tonnes. This comment reflects those numbers converted to short tons. To convert from the metric tonnes in the 10-K to short tons, multiply the metric tonnes by a factor of 1.1.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | quantity. | |
| **Section 4.3.2.2** | | |
| 4:23 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| 4:24 | The statement omits Hickory Creek from listed of streams found at Ona. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.3.2.3** | | |
| 4:25 | *Technical correction*.<br>If waters are non-jurisdictional, they are not waters of the U.S.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| 4:26 | *Technical correction*.<br>Wingate Creek does not flow through Wingate East, but the headwaters of the Myakka River crosses the south end of the site. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.3.3.1** | | |
| 4:27 | *Suggested clarification*.<br>Manatee County Code of Ordinances § 2-20-7 allows mining in the Peace River Watershed if "an applicant demonstrates, with competent and substantial evidence, that such mining activities will not cause a degradation of water quality and will not cause adverse impacts on water quantity within the affected watershed." | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.3.3.3** | | |
| 4:28 | *Technical correction*.<br>See Figure 4-18. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.3.4.12** | | |
| 4:29 | *Typographical error*. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.4.1** | | |
| 4:30 | *Suggested clarification*.<br>The legend of these figures (and all other simulated groundwater level tables) identifies contour lines as "Drawdown Contour Lines." These labels are potentially misleading because most of the modeling figures indicate recovery or rebound of groundwater levels. We suggest that the label be changed to "Water Level Contours" on all relevant figures. We also suggest that the Most Impact Area (MIA) be included on all contour figures. The MIA is important since it is discussed in several places within the document, such as sections 3.3.7.6, 4.4.1, and 4.12.2.2. | All figure terminology revised to: water level. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 4.4.2.1** | | |
| 4:31 | *Technical correction*.<br>SWFWMD has a separate category for mining water use. | Comment incorporated. |
| 4:32 | *Suggested clarification*.<br>See Comment 4:30 [two up]. | All figure terminology revised to: water level. |
| 4:33 | *Suggested clarification*.<br>Explain how pumping shifts, rather than increases, as mining activities advance from one mine to another. | Discussion in text revised to describe impacts more appropriately. |
| **Section 4.4.2.3** | | |
| 4:34 | *Suggested clarification*.<br>See Comment 4:30. | All figure terminology revised to: water level. |
| **Section 4.4.3.3** | | |
| 4:35 | *Suggested clarification*.<br>New groundwater quantities can still be permitted or self-relocated today so long as proposed withdrawals are consistent with SWUCA rules. | Text deleted. |
| **Section 4.5.2.1** | | |
| 4:36 | *Technical correction*.<br>See Attachment A. | Comment acknowledged. Additional discussions on low flows were provided in Chapter 4and in Appendix G. |
| 4:37 | *Typographical error*. | Comment acknowledged. Analyses were modified. |
| **Section 4.5.2.2** | | |
| 4:38 | *Suggested clarification*.<br>See also, Figures 2 and 3 in Attachment A, note underlying data files for Attachment A are included on the enclosed CD | Comment acknowledged. Text not required to be changed. |
| 4:39 | *Technical correction*.<br>Figure 4-39 and the calculations should be revised to reflect the maximum capture area in the Horse Creek basin. See Attachment A. | The analyses were modified and results changed. |
| **Section 4.5.2.3** | | |
| 4:40 | *Technical correction*.<br>The statement omits the fact that the northeast corner of Wingate East is located within the Peace River basin. | Comment accepted. The text was modified. |
| 4:41 | *Technical correction*.<br>See page 1-110 of the Wingate East application. | Comment accepted. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 4:42 | *Suggested clarification*.<br>Figure 4-42 and the calculations should be revised to reflect that the maximum capture area. See also Attachment A. | Comment acknowledged. Text change not required for this section. |
| **Section 4.5.3.1** | | |
| 4:43 | *Suggested clarification*.<br>Actual operating conditions would be more understandable with this clarification. | Comment acknowledged. The suggestion provides more detail than necessary. |
| **Section 4.6.1** | | |
| 4:44 | *Additional/updated information*.<br>Please also consider the Charlotte Harbor Seven-County Watershed Report (CHNEP 2011).[10] This report provides a general summary of water quality issues in the Charlotte Harbor watershed, and states that "The biggest per-acre sources of nitrogen pollution are failed septic tanks, feedlots, commercial property and row crops." In addition Harper (1994) reviewed numerous studies of runoff in Florida and provided recommended loading rates for stormwater planning and design. Those rates indicate that, in many cases, residential, commercial, industrial, highway and agricultural land uses yield elevated nutrient loadings per acre, as well as elevated loadings of BOD and total suspended solids. Harper points out that his loading rates generally do not include reductions in pollutants that may be achieved through stormwater treatment technology and BMPs. These reports suggest that continued agriculture, along with urbanization and other associated development in the CFPD have the potential to have the most significance with respect to impact on water quality but that all such land use impacts can be reduced through the use of surface water management technologies. [Citation: Harper, H.H. 1994 "Stormwater Loading Rate Parameters for Central and South Florida" Revised. Environmental Research & Design, Inc., Orlando, Florida.]. | Comment acknowledged. The link to the Charlotte Harbor Seven-County Watershed Report (CHNEP 2011).[11] Is broken. Another reference was substituted. |
| 4:45 | *Technical correction*.<br>A small portion of Ona is in the Myakka River watershed and a small portion of Wingate East is in the Peace River watershed. | Comment accepted. |
| **Section 4.6.2.1** | | |
| 4:46 | *Technical correction*.<br>The two inactive mines detailed in this table, Fort Green and Kingsford, were both Mosaic mines; no CF Industries sites are included | The table title was changed. |

[10] Available at http://www.chnep.wateratlas.usf.edu/upload/documents/2011WatershedReport.pdf.

[11] Available at http://www.chnep.wateratlas.usf.edu/upload/documents/2011WatershedReport.pdf.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 4:47 | *Technical correction*.<br>Discrepancies in values between the two tables need to be checked, because they should be the same. If they aren't supposed to be the same, otherwise an explanation is needed.<br>Note: There also appears to be a rounding error in some of the values, as the values in Tables 4-19 thru 4-26 in Chapter 4, may be off by a tenth with respect to the values in Tables 4 thru 11 in Appendix B. | The tables represent averages under different conditions. The titles of the tables were changed to better define this. |
| 4:48 | *Suggested clarification*.<br>Identify the outfall under discussion. | Comment accepted. |
| 4:49 | *Typographical error*. | Comment accepted. |
| 4:50 | *Suggested clarification*.<br>The limited test data for the Wingate outfall may have given a false indication of impairment, but the text does not acknowledge this. | Comment acknowledged. Text was added to address this issue. |
| **Section 4.6.5** | | |
| 4:51 | *Suggested clarification*.<br>See Comment 3:39. | Comment acknowledged. Text was added to Chapter 4. |
| **Section 4.7.1.3** | | |
| 4:52 | *Typographical error*. | Agree with change. |
| **Section 4.7.2** | | |
| 4:53 | *Technical correction*.<br>See ECONorthwest supplemental information in Attachment D. | Comment Acknowledged - analysis was revised to reflect that not all of the land on the proposed mine sites is currently in agricultural use. Analysis does already account for agricultural production on reclaimed lands. |
| **Section 4.7.3** | | |
| 4:54 | *Suggested clarification*.<br>Section 4.7.3 treats the Pine Level/Keys Mine and the Pioneer Mine as alternatives to the Wingate East, Ona, and South Pasture Extension Mines, and conducts the analysis with the assumption that the permits for Wingate East, Ona and the South Pasture Extension would not be issued. This may be confusing since the future mines are not substitutes for planned mines but are more accurately viewed as cumulative impacts. This is acknowledged in part in the current text at Lines 6-9. | These are considered as part of the alternatives analysis as both individual mines for comparison with other alternatives as well as mines that are part of the cumulative impact analysis including Pine Level/Keys and Pioneer as extensions to other Applicant Preferred Alternatives. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 4.8** | | |
| 4:55 | *Suggested clarification*.<br>General comment regarding the cultural and historic resource summary on Page 4-139 and associated tables: It seems disconnected from cultural and historic resource section 3.3.7.9, Page 3-156 to 3-157, Table 3-22. No change may be necessary, but please review. | Section 4 has been reviewed and the text clarified. |
| **Section 4.9** | | |
| 4:56 | *Suggested clarification*.<br>It could be useful to state the standard by which EJ impacts are measured. | The environmental justice (EJ) evaluation in the Final AEIS has been expanded and Section 4.7 of the Draft AEIS revised to more closely examine environmental justice-related impacts in DeSoto, Hardee and Manatee counties, which have the greatest potential to be directly affected by one of the Applicants' Preferred Alternatives due to geographic proximity as well as EJ populations identified by the Draft AEIS as warranting further consideration. |
| 4:57 | *Technical correction*.<br>The row for Alternative 2 erroneously indicates that the DeSoto Mine is in Hardee County.<br>Also, several of the mine sizes in this table are incorrect. See acres and linear feet tables in Attachment F. | Table and analysis were revised as appropriate. |
| 4:58 | *Suggested clarification*.<br>Hardee County Tract 970300 Block Group 5 is identified as having a high minority population, but the census data appears to be heavily influenced by the presence of the Hardee Correctional Institute (men's prison with a capacity of 1500 inmates[12]) in the block group. The census block (5039) that includes the prison accounts for 90% (336 of 375) of the African American population and 78% (582 of 749) of the Hispanic population of Block Group 5. | Comment acknowledged. |
| 4:59 | *Suggested clarification*.<br>It is not clear that there actually are EJ communities in the areas identified in the DAEIS. The minority population appears to be attributable to a prison located in Hardee County Tract 970300 Block Group 5. There is some debate as to whether prison populations should be included in EJ analyses, and, as a practical matter, the environmental and economic issues affecting incarcerated populations are quite distinct from its surrounding community. The low-income population determination is questionable given that it is unclear that recent American Community Survey income data is available for the block group at issue. Accordingly, the conclusions about the presence of an EJ community near | Comment acknowledged. |

[12] *See* Fla. Dep't of Corrections, Hardee Correctional Institute, http://www.dc.state.fl.us/facilities/region4/501.html.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | proposed mine sites should, at the very least, be qualified to acknowledge this uncertainty. | |
| 4:60 | *Technical correction*.<br>Several of the acreages in this table are incorrect. Please see Attachment F. | Table and analysis presented in Appendix H have been revised as needed. |
| 4:61 | *Suggested clarification*.<br>See Comment at pg 4-151 & 152 regarding the uncertainty of the data. | This was addressed in the Environmental Justice analysis. |
| **Section 4.10** | | |
| 4:62 | *Technical correction*.<br>Several of the acreages in these tables are incorrect—namely in the "Total Mineable Acres" columns. | Not applicable as the referenced tables do not exist in the final AEIS. |
| 4:63 | *Suggested clarification*.<br>Many of the facts are considered on a site by site basis. Factors that the USACE will likely consider in its review of site-specific avoidance and minimization alternatives will include the size of the native land cover area (*i.e.*, patch size); the degree to which each native land cover area is connected to existing or potential wildlife corridors; the degree to which each area has been altered directly or indirectly by historical anthropogenic activities; the degree to which the area is connect to, or abuts development such as highways, railroads, and electrical transmission line corridors; the degree to which each wetland encumbers the ability to construct clay settling areas (which goes to practicability); etc. | The onsite alternatives in the draft AEIS that evaluated mining exclusion zones around streams and high quality wetlands are not included in the final AEIS. WRAP data from the 404 applications are discussed in more general terms with respect to what may be considered high, moderate, or low quality. Under the mitigation framework developed for the final AEIS (Chapter 5). |
| 4:64 | *Technical correction*.<br>Not all four mine applications are proposed new mines, two are mine extensions. | Not applicable as the referenced figures do not exist in the final AEIS. |
| **Section 4.10.1** | | |
| 4:65 | *Typographical error*.<br>All tonnages on these pages are off by a factor of 1,000. Should double check calculations and input data to ensure you're working in metric tonnes versus short tons. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.10.1.1** | | |
| 4:66 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.10.1.2** | | |
| 4:67 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 4.10.2.1** | | |
| 4:68 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.10.2.2** | | |
| 4:69 | *Technical correction*.<br>See Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.10.3.1** | | |
| 4:70 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.10.3.2** | | |
| 4:71 | *Technical correction*.<br>See acres and linear feet tables in Attachment F. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.10.4.3** | | |
| 4:72 | *Suggested clarification*.<br>The AEIS should clarify that the buffer practicability analysis will occur during the review of the individual permit applications and will consider site-specific factors and other relevant information.<br>See Attachment B for additional information. | The onsite alternatives in the draft AEIS that evaluated mining exclusion zones around streams and high quality wetlands are not included in the final AEIS and have been replaced by a discussion of a conceptual mitigation framework in Chapter 5. |
| **Section 4.11.4** | | |
| 4:73 | *Technical correction*.<br>The noise limit imposed by Hardee County can vary based on several factors (*e.g.*, night/day, commercial/residential property). | Text has been updated. |
| **Section 4.11.8** | | |
| 4:74 | *Typographical error*. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.11.9** | | |
| 4:75 | *Typographical error*. | Text has been revised. |
| **Section 4.11.10** | | |
| 4:76 | *Typographical error*. | Text has been revised. |
| **Section 4.12.1.3** | | |
| 4:77 | *Suggested clarification*.<br>Wingate Creek mine actually started in 1981, although it has not run continuously and has transferred ownership several times since that time. | Figure has been updated as proposed. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Section 4.12.1.4** | | |
| 4:78 | *Suggested clarification*. | Agree with change |
| 4:79 | *Technical correction*.<br>Both the original Polk County portion of South Fort Meade as well as the Hardee County Extension of South Fort Meade are active. | Comment has been incorporated. |
| 4:80 | *Suggested clarification*. | Accepted recommended change. |
| **Section 4.12.1.5** | | |
| 4:81 | *Additional/updated information*. | Comment Acknowledged. Some discussion on CARL lands has been added to Chapter 4 related to cumulative impacts. |
| 4:82 | *Suggested clarification*.<br>These tables are labeled as though they reflect "Unmined Lands" (See Table Titles), but they each contain an Extractive Category and some of the other categories most likely contain Mined Lands as well. See Comment 2:9, which recommends steps to cure this inherent mapping defect. | The Final AEIS has been clarified to note that the SWFWMD FLUCCS data include areas that have also been reclaimed. |
| 4:83 | *Technical correction*.<br>As reflected on Florida Power & Light's website,[13] its solar project in DeSoto County has been completed. | Comment incorporated. |
| **Section 4.12.2.2** | | |
| 4:84 | *Technical correction*.<br>See Attachment A.<br>It appears that Figure 4-61 is using the capture area for the Peace River, rather than the entire CFPD. Note also that as of December 31, 2010, the total mandatory area mined in the CFPD since 1975 was 164,958 acres. The total mandatory area reclaimed through the same date is 118,820 acres. The total mandatory area reclaimed and released by FDEP through the same date is 67,967 acres. As of 12/31/2010, the mandatory area mined and not reclaimed within the CFPD would be 46,136. The area mine, reclaimed, but not released by FDEP as of 12/31/2010 would be 96,989 acres. Figure 4-61 indicates a total acreage mined and not reclaimed at the end of 2010 of about 27,000 acres. (Citation: Florida Department of Environmental Protection (2011) "Rate of Reclamation Report – July 1, 1975 through December 31, 2010", Bureau of Mining and Minerals Regulation). | The FDEP 2010 Annual Rate of Reclamation Report includes all reclamation and may not reflect the mining/reclamation assumptions included in the figure. |

[13] Available at http://www.fpl.com/environment/solar/desoto.shtml.

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 4:85 | *Suggested clarification*.<br>It would be helpful if more of the information in Table 4-68 were described and included in the narrative text. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.12.3.2** | | |
| 4:86 | *Suggested clarification*.<br>Chapter 62-345 does not require no net loss of uplands. | Not applicable as the referenced text does not exist in the final AEIS. |
| 4:87 | *Technical correction*.<br>Incremental disturbance, mining and reclamation/restoration occurs across a mine site. | Not applicable as the referenced text does not exist in the final AEIS. |
| **Section 4.12.3.3** | | |
| 4:88 | *Suggested clarification*.<br>"Some recovery" is an understatement and does not acknowledge the industry's efforts to reduce FAS withdrawals since the 1970's as identified by the SWFWMD Recovery Strategy. Comparative review of historical to recent FAS potentiometric maps indicates substantial water level recovery in areas of the CFPD as a result of the industry's groundwater use reductions. | Revised to: substantial. |
| 4:89 | *Suggested clarification*.<br>The total FAS water withdrawals in the SWFWMD associated with phosphate mining constitute a low percentage of total withdrawals and should be put into proper perspective. | Revised relevant sections to state that industry water usage for mining comprised less than 10% of FAS withdrawals within the SWUCA. |
| 4:90 | *Suggested clarification*.<br>See Comment 4:30. | All figure terminology revised to: water level. |
| **Section 4.12.3.4** | | |
| 4:91 | *Technical correction*.<br>It is not universally true across the entire region. Areas in the southern portion of the District are highly confined and surface water flows in some of the southern systems are not related to/heavily influenced by FAS water levels. | Comment acknowledged and text added. |
| 4:92 | *Technical correction*.<br>This statement omits water contributions resulting from groundwater recharge. | Comment acknowledged and text added. |
| 4:93 | *Factual / technical correction*<br>27/200 = 13.5%; also see Attachment A which includes recommended changes to this analysis | This analysis has changed substantially and new text substituted. |
| 4:94 | *Suggested clarification*<br>The text on pages 4-236 through 4-238 could be supplemented with more analysis and comparisons against historical flow so it is not left unsubstantiated. See also Attachment A. The decrease in flow to Charlotte Harbor from the | Comment acknowledged. A lot of the suggested clarification is presented in Appendix G. The analyses were updated so this section's text was changed substantially. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | cumulative mining, however, will remain "barely perceptible" and "insignificant." | |
| **Chapter Five** | | |
| **Section 5.1** | | |
| 5:1 | *Suggested clarification*.<br>Chapter 5 almost exclusively addresses compensatory mitigation, but this is not made clear. | Chapter 5 has been expanded to cover impact avoidance and minimization under the Section 404(b) (1) Guidelines. The reclamation section in the chapter has also been expanded. |
| **Section 5.3.1** | | |
| 5:2 | *Suggested clarification*.<br>The existing statement may be overly broad in implying that wetlands and streams are or can be routinely avoided. Based on the small size of some of the stream systems, they are frequently mined and reclaimed. In addition, while mining may occur mostly in uplands because there is a larger percentage of uplands than wetlands at each site, this statement makes it look like mining routinely avoids all or most wetlands and that all or most uplands are previously disturbed. Some additional clarification is warranted. | The theme of the comment (avoidance to the extent practicable) is addressed in detail in the revised Chapter 5 that includes a Proposed Mitigation Framework section. The importance of phosphate mining to food security is addressed in the AEIS in Chapter 1. "Practicable" has been added to the referenced statement. |
| **Section 5.3.6** | | |
| 5:3 | *Suggested clarification*.<br>This statement should acknowledge that temporal loss is a factor in determining mitigation requirements. | The referenced statement has been revised to note the temporal loss component in mitigation requirements in Chapter 5. |
| **Section 5.3.7** | | |
| 5:4 | *Additional/updated information*.<br>The discussion on mitigation success would benefit by including additional information from Best, G.R., M. Brown, T. Crisman, K. Erwin, D. Gratz, K. Reddy, H. Kale, P. Prtichard, T. Missimer, C. Walker, A. Owosina, and M. Dueuven: 1997, Evaluation of Constructed Wetlands on Phosphate Mined Lands in Florida (FIPR Report No. 92-03-103). | The discussion of mitigation success has been expanded considerably in the final AEIS to address numerous public and agency comments on the topic. Chapter 5 of the final AIES specifically addresses the success of created herbaceous and forested wetlands in great detail. The final AEIS has also been expanded to address mitigation success criteria, monitoring, and adaptive management in greater detail. |
| **Section 5.3.8** | | |
| 5:5 | *Technical correction*.<br>As indicated, the Corps periodically does accept wetland mitigation on CSAs on a case by case basis.<br>For supporting information on the hydrology of CSAs, see the following sources:<br>• Ross, Mark, Mark Stewart, Ken Trout and Mark Rains, Hydrology of a Clay Settling Area, 2008, Prepared for Florida Institute of Phosphate Research.<br>• Exner-Kittridge, Michael G. and Mark C. Rains, A case study on the accuracy and cost/effectiveness in simulating reference evapotranspiration in west- | The referenced statement speaks to current USACE policy. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | central Florida, 2010, Journal of Hydrologic Engineering<br>• Ross, Mark A., 2011, Hydrology of Clay Settling Areas, FIPR Board Meeting<br>• Kittridge, Michael G., Mark C. Rains, Mark Stewart and Mark A. Ross, 2007, Cost/Effectiveness Analysis of Obtaining Operational Estimates of Reference Evapotranspiration, Peninsular Florida, USA<br>• Murphy, Kathryn E., Mark C. Rains, Mark Stewart and Mark A. Ross, 2007, Hydrological Connectivity Between Clay Settling Areas and Surrounding Hydrological Landscapes in the Phosphate Mining District, Peninsular Florida, USA.<br>• Murphy, Kathryn E., Mark C. Rains, Michael G. Kittridge, Mark T. Stewart and Mark A Ross (2008) Hydrology of Clay Settling Areas and Surrounding Landscapes in the Phosphate Mining District, Peninsular Florida, Journal of the American Water Resources Association (JAWEA) Vol. 44 No. 4<br>• Pechenik, Natalie, Mark C. Rains, Mark T. Stewart and Mark A Ross, 2009, Lateral Macropore Dominated Flow On A Clay Settling Area In The Phosphate Mining District, Peninsular Florida<br>• Spencer, John M., Mark Stewart, Charles Connor and Mark Rains, 2008, Comparing a Low-Volume Piezometer to Traditional Wells in Evaluating Hydraulic Lag Caused by Low-Permeability Sediments | |
| **Section 5.4.1** | | |
| 5:6 | *Suggested clarification*. | The referenced statement indicates that integrated modeling has been used by the phosphate industry since 1995; therefore, the statement clarifies that Mosaic has used integrated modeling as well. |
| 5:7 | Suggested clarification. | The referenced first sentence has been revised accordingly. The remaining comments are not applicable as the discussion of the Alderman site has been significantly modified in the Final AEIS. |
| 5:8 | *Suggested clarification*.<br>Additional text on success criteria for mitigation projects.<br>See also Comment associated with page pg 5-10 lines 31-23, below, which suggests the term "reference" wetlands be substitute for the term "natural, undisturbed wetlands" and Florida Department of Environmental Protection (FDEP), 2011, *Rate of Reclamation Report*. Presentation by Michelle Sims. Florida Department of Environmental Protection. | The topics of success criteria and regulatory release are discussed in greater detail in the Chapter 5 of the final AEIS. |
| **Section 5.4.2** | | |
| 5:9 | *Technical correction*.<br>For additional information, see AMEC, 2012b. | The referenced section speaks only to the referenced study for FDEP. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 5:10 | *Suggested clarification*.<br>There are few, if any, truly natural undisturbed (e.g., pristine) headwater streams in the region, with the majority of streams proposed for impact being quite small and many having been ditched, cleared or otherwise agriculturally impacted prior to the request for mining. Therefore, we suggest substituting the term "reference" streams for the term "natural, undisturbed" streams. Such reference streams should be selected prior to the initiation of mitigation.<br>See also Riparian Wetland Mitigation: Development of Assessment Methods, Success Criteria and Mitigation Guidelines (2007), Florida Department of Environmental Protection Bureau of Mine Reclamation (FDEP). | Chapter 5 does not speak to how regulatory success criteria in general should be modified. It does address what types of success criteria may be required by the proposed mines - by providing examples that can be tailored to the proposed mines. |
| **Section 5.5.1** | | |
| 5:11 | *Suggested clarification*. | Chapter 5 of the final AEIS includes an expanded section on mitigation that clarifies the financial assurances issues. |
| **Section 5.5.2.3** | | |
| 5:12 | *Suggested clarification*.<br>While mitigation banks are one option, they should not appear to be the sole option, or even necessarily the best in all cases. | Chapter 5 has been modified to expand on the options available for mitigation. |
| **Section 5.6** | | |
| 5:13 | *Suggested clarification*.<br>Section 5.6 may be misleading because it implies that wetland acres and stream feet are the metrics used to evaluate mitigation. | This comment is not applicable to the final AEIS as the referenced text has been removed. |
| 5:14 | *Technical correction*.<br>See acres and linear feet tables in Attachment F for correct acreages. | This comment is not applicable to the final AEIS as the referenced text has been removed. |
| 5:15 | *Technical correction*.<br>Several of the acreages in these tables are incorrect. See acres and linear feet tables in Attachment F. | This comment is not applicable to the final AEIS as the referenced text has been removed. |
| **Section 5.7** | | |
| 5:16 | *Technical correction*.<br>See Comment 4:[p, 191]. Although they are similar, we recommend using the latest available FDEP Rate of Reclamation report for consistency. | The final AEIS refers to 2010; however, per FDEP, the correct percent is 71 percent. The reclamation section has been expanded in the final AEIS. |
| **Section 5.9** | | |
| 5:17 | *Technical correction*.<br>While site surveys are performed during the permitting phase of a project, the pre-clearing surveys are conducted just prior to mining, after permit applications have been issued. Wildlife and Habitat Management Plans provide for pre-clearing survey protocols. | Comment acknowledged. Sufficient detail is provided on these topics. Pre-clearing surveys are also addressed in Chapter 4. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 5:18 | *Typographical error*. | Error corrected. |
| **Chapter Seven** | | |
| 7:1 | *Correction to reference/citation*.<br>Correct Citation Unknown | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:2 | *Correction to reference/citation*.<br>Correct Citation Unknown | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:3 | *Correction to reference/citation*.<br>Correct Citation Unknown | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:4 | *Correction to reference/citation*.<br>Correct Citation Unknown | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:5 | *Correction to reference/citation*.<br>Correct Citation Unknown | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:6 | *Correction to reference/citation*.<br>Correct Citation Unknown | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:7 | *Correction to reference/citation*. | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:8 | *Correction to reference/citation*.<br>Add Citation to the Reference List | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:9 | *Correction to reference/citation*. | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| 7:10 | *Correction to reference/citation*.<br>This document is not cited in the DAEIS | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| 7:11 | *Correction to reference/citation*. | Chapter 7, References, has been updated to include all references cited in the document. Corrected reference information provided by the Applicant will be incorporated. |
| **Appendix A** | | |
| X:1 | *Technical correction*.<br>This map identifies a 500-foot setback area in the northwest corner of Wingate East as part of the Peace River "Greenway", but this area is not in the Peace River watershed. | Made correction in final. |
| **Appendix B** | | |
| X:2 | *Technical correction*.<br>At the bottom of the page is a list of water bodies within CFPD watersheds that are designated as Outstanding Florida Waters, but it is incomplete. We suggest deleting the bullet point reference to "Little Manatee River" on Line 23 because the entire river is not an OFA listing in Rule 62-302.700(9) and adding other relevant water bodies that are covered by the rule. | This was updated in Chapter 3. Changed appendix D to include the same changes that were in Chapter 3. |
| X:3 | *Suggested clarification*.<br>The discussion in Section 5.1 omits several monitoring requirements. | Comment accepted and text modified. |
| X:4 | *Technical correction*.<br>Discrepancies in values between the two tables need to be checked, because they should be the same. If they aren't supposed to be the same, otherwise an explanation is needed.<br>Note: There also appears to be a rounding error in some of the values, as the values in Tables 4 thru 11 in Appendix B, may be off by a tenth with respect to the values in Tables 4-19 thru 26 in Chapter 4. | These tables were rechecked. One table is the statistics for all data and the other was when there were data at three locations compared (upstream/outfall/downstream). |
| X:5 | *Suggested clarification*.<br>The results of the Biological and Water Quality Assessment of the Peace River Basin (FDEP, 2009) could be summarized here in a manner similar to the summary provided in Chapter 3, pg 103 – 104. For example, noting that of the 17 tributaries to the Peace River in the study, seven drain substantial phosphate mining areas. All of the sites draining such mining areas achieved Healthy SCI scores. **Three of the 10 tributary sites draining non-mining areas failed to achieve Healthy designations.** | Chapter 3 discusses this report, and it was added to Appendix D (comment accepted with minor rewording). |
| X:6 | *Suggested clarification*.<br>The limited test data for the Wingate outfall may have given a false indication of impairment, but the text does not acknowledge this. | Comment acknowledged. Text clarifies that the low SCI scores at these sites were attributed to the intermittent or ephemeral flow regimes and the low dissolved oxygen levels of the streams. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| X:7 | *Additional/updated information*.<br>See Comment 3:39. | The NNC section was rewritten in response to current actions and EPA comments and is in Chapter 3. |
| **Appendix D** | | |
| X:8 | *Technical correction*.<br>Streams will not be impacted as described in this Appendix. In Chapter 3, Page 67, the text cites Terri Lee's Charlie Creek study which indicated that artesian conditions in the IAS support low-order streams and headwater wetlands. That is not true of the IAS or FAS within the parts of the watershed at any of the four mine sites. See Chapter 3 comments for further clarification. | This statement is not in Appendix F (formerly D, Groundwater) but is in chapter 3 under Past Mining Effects. Text has been modified. |
| X:9 | *Technical correction*.<br>SWFWMD has a separate category for mining water use | Comment incorporated. |
| X:10 | *Typographical error*.<br>The correct version of the District-Wide Regulatory Model is **Version 2.1** (not Version 2). | All references were corrected to version 2.1 |
| X:11 | *Typographical error*. | Corrected. |
| X:12 | *Technical correction*.<br>Hopewell was mined out and closed in January 2011 as reserves were depleted. | Pumping amounts were verified with Mosaic for the TM revisions. It is pumping 0.5 mgd through 2015. This is a small quantity and does not merit rerunning all of the modeling scenarios. |
| X:13 | *Technical correction*.<br>Ona water uantities have already been permitted and Ona does not need new allocations, it will only be a new withdrawal location. | Revised language added with the following new sentence: Any new well locations will be modeled to evaluate impacts to other users and regional MFLs. |
| X:14 | *Suggested clarification*.<br>It should be noted that SWFWMD has not imposed a "cap" or simply "prohibited" new groundwater withdrawals and that efforts to reduce groundwater use are not limited solely to Agricultural users.<br>Also, the reference to "Trail Ridge Lakes" is incorrect and should simply read "Ridge Lakes" (Trail Ridge is located in northeast Florida). | Much of the text has been revised and the referenced discussion was deleted. References to the SWUCA have been revised to delete the terms cap and prohibit. |
| **Appendix E** | | |
| X:15 | *Additional/updated information*.<br>The Soil Hydrologic Group Classification for soils in the CFPD counties was updated between 2010 and 2012, therefore the citation/ data in Section 2.3.4 could be updated accordingly. | Citation was checked and clarified. |
| X:16 | *Additional/updated information*.<br>The Soil Hydrology Group Classification for soils in the CFPD counties was updated between 2010 and 2012. Therefore the citation / data could be updated accordingly. See also Comment with respect to pg 3-20 Fig 3-10. | Comment accepted. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| X:17 | *Factual / technical correction*.<br>Page 3 of Attachment D regarding agricultural output on mined lands, may be instructive.<br><br>Information in Attachment A regarding cumulative mine use acreage may be instructive. Not the underlying data for the bar charts in Attachment A can be found on the enclosed CD.<br><br>(The total area mined in the Peace River basin above Arcadia in 1990 is approximately 53,000 acres. The total area mined and proposed to be mined in the Peace River basin above Arcadia through 2040 is approximately 114,000 acres. The total area captured behind the ditch and berm system in the Peace River basin above Arcadia in 1990 was approximately 38,000 acres. The total capture area in 2040 under the proposed action is predicted to be approximately 7,000 acres. For Mosaic and CF only, the capture areas under the proposed action are 28,500 acres and 7,000 acres, respectively. Mosaic is available for further discussion on this comment if warranted. | Not all agricultural land is irrigated. Most of the conversion is to pasture. Also, these land uses and the areas were modified in the final AEIS. |
| X:18 | *Suggested clarification*.<br>See Attachment A for discussion on capture. Also, note, that 100% capture is more than a conservative assumption, it is overly conservation. Attachment A demonstrates that actual capture is in the magnitude of 20 to 40%. 50% capture, not 100%, would be considered conservative. | Comment acknowledged. A 50% capture scenario was added to the analysis. |
| X:19 | *Typographical error*.<br>There are two figures labeled “Figure 21.” | Comment accepted. |
| X:20 | *Typographical error*.<br>There are two figures labeled “Figure 22.” | Comment accepted. |
| X:21 | *Technical correction*.<br>See also Attachment A | The analyses were updated and text modified. |
| X:22 | *Factual / Typographical error.*<br>However, the analysis need to be updated per the discussion in the Garlanger report found at Attachment A. | Comment acknowledged. See revised text. |
| X:23 | *Suggested clarification*.<br>Also, the text on pages 4-236 through 4-238 needs to be supplemented with more analysis and comparison against historical flow so it is not left unsubstantiated. See Attachment A. The decrease in flow to Charlotte Harbor from the cumulative mining, however, remains “barely perceptible,” as stated on p 4-237 line 34. | Comment acknowledged and addressed. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| **Appendix F** | | |
| X:24 | *Technical correction*. | Text modified. |
| X:25 | *Technical correction*.<br>PCS Phosphate is the only active operator in Hamilton County. The seven-year average production capacity may be misleading because one of the two mines operating in Hamilton County has been depleted and closed, with only the Swift Mine currently operating. Over the seven year period between 2005 through 2011, the PCS Swift Creek Mine in Hamilton County averaged 2.79 million tonnes of production. See, Potash Corporation of Saskatchewan Inc., Annual Report (Form 10-K), at 7 (Feb. 27, 2012). | Text changed. |
| X:26 | *Suggested clarification*.<br>App F. Sec. 4.2 provides the individual mine economic impacts. It treats the Pine Level/Keys Mine and the Pioneer Mine as alternatives, respectively, to the Wingate East and Ona & South Pasture Extension and conducts the analysis with the assumption that the permits for Wingate East, Ona and the South Pasture Extension would not be issued. This may be confusing since the future mines are not substitutes for planned mines but are more accurately viewed as cumulative impacts. The text should explain the relationship between these future mines as alternatives and as cumulative impacts. | These are considered as part of the alternatives analysis as both individual mines for comparison with other alternatives as well as mines that are part of the cumulative impact analysis including Pine Level/Keys and Pioneer as extensions to other Applicant Preferred Alternatives. |
| **Appendix H** | | |
| **ECONorthwest Comments** | | |
| ENW-1 | 1. Mine acreage in the Economic Analysis significantly exceeds acreage implied in the Project Purpose and Need section of the DAEIS. The DAEIS Economic Analysis appears to overstate the acreage to be mined. It reports total mine acreage that appears inconsistent with the description of the acreage in the DAEIS Project Purpose and Need section.<br>For example, the Economic Analysis states 20,939 acres will be mined in total at the Four Corners mine. This figure may be the size of the mine, but it is not the acreage that will be mined, for purposes of estimating the amount of ore that a mine might produce. The total mine size includes ditch and berms, roads, buffers and other features that do not generate ore.<br>Total mine acreage for purposes of estimating ore quantities can be estimated from the Project Purpose and Need section, as it states the annual production at the Four Corners mine is estimated to be 6.1 million short tons a year. Phosphate production, in thousands of tonnes per acre, is 7.10. When expressed in short tons per acre, it is 7.83. Annual acres mined would be 779.4 or 6.1 million short tons divided by 7.83 short tons per acre. The Four Corners Mine is projected to operate throughout the entire ten-year period from 2010 | The minable acres have been reviewed and revised as needed and are shown in Appendix H. |

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | to 2019. Therefore, based on annual mine output and mine life, as reported in the DAEIS Project Purpose and Need section, 7,794 acres would be mined in total to generate the projected ore volumes.<br><br>Therefore, the Economic Analysis does not align with the descriptions of mine output in the Project Purpose and Need section of the DAEIS. In other words, as stated above, the Economic Analysis overstates the acreage to be mined. | |
| ENW-2 | 2. Property taxes are misestimated. The DAEIS Economic Analysis incorrectly estimates property taxes, causing them to be overstated in the base case and understated in the mining cases. Mine permit applications submitted pursuant to Section 404 of the Clean Water Act report the incremental property taxes that would be paid to county tax assessors if properties were mined. The DAEIS Economic Analysis reports these incremental taxes as total property taxes that would be paid regardless if land were mined or used for agricultural production. This is an erroneous application of the incremental property tax estimates for two reasons.<br><br>First, the property tax a mine would pay is equal to the sum of the incremental property tax and the tax paid before the property is assessed for mining (the base case). Therefore, the incremental property tax is a portion, not the total, of the property tax that would be paid by mines.<br><br>Secondly, if land is used for agriculture, it is assessed, and therefore taxed, at a rate less than its market value. According to the State of Florida statute 193.461, lands that are primarily used for bona fide agricultural purposes shall be taxed based solely on their agricultural use, not their market value. As such, if land is used for agriculture, it is eligible for this exemption even if the land would later be mined or had been mined in the past. The DAEIS does not reflect this.<br><br>For example, the DAEIS Economic Analysis shows annual property taxes in DeSoto County of $13.0 million in years 1 through 10 on property that would later become the DeSoto Mine. During the decade annual agricultural output is $15.8 million. In years 11 through 20 and 21 through 30, according to the same table, there would be mine output from those lands and agricultural output would decline. Therefore, land formerly used for agriculture would be used for mining.<br><br>According to Florida law, the land would lose its agricultural property tax exemption during the time of mining in DeSoto County and property taxes would increase. However, the DAEIS Economic Analysis shows no change in property taxes.<br><br>In years 41 through 50, a decade after mining ended, there is an increase of $100,000 a year in agricultural output, as 40 percent of reclaimed land would | Property tax estimates were reviewed and updated as needed. The information was used as a model input in the economic analysis described in Appendix H. |

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | return to agriculture. With land returning to agricultural use, property taxes, according to Florida law, will decline. The DAEIS shows no decline.<br><br>The 2011 Florida Tax Handbook reports that the revenue impact of the agricultural land ad valorem or property tax exemption in 2011-12 is $968.9 million and the impact on the taxable value is $55,877 million statewide. There were 9.25 million acres of land in farms in Florida. The average reduction in taxable value per acre for land in agricultural use is $6,040.76 per acre ($55,877 million divided by 9.25 million acres) and the average value of the property tax differential is $104.75 ($968.9 million divided by 9.25 million acres in farm).<br><br>The DAEIS shows no differential. Its reporting of annual property taxes does not reflect Florida statutes. The DAEIS should show that land used for agriculture is assessed and taxed at low rates, and when such land used for mining, it is taxed at higher rates. | |
| ENW-3 | 3. Agricultural output is overstated The DAEIS Economic Analysis incorrectly assumes that all existing mine site acreage would be used for agriculture if not mined. As a result of this incorrect assumption, the DAEIS Economic Analysis significantly overstates the amount of agricultural output, income, and jobs on existing mine lands, and therefore overstates the associated reduction in agricultural output, income, and jobs.<br><br>The total existing mine acreage, according to the DAEIS, is 190,211. The Economic Analysis shows 190,211 acres of total existing agricultural land. The analysis estimates agricultural output assuming all land to be mined is used to produce citrus, livestock, or row crops and bases its calculations of losses in agricultural output due to mining on this assumption.<br><br>A significant portion of land to be mined is not in agricultural use. For example, county tax assessor records report Mosaic Fertilizer and CF Industries land acreage by use. The property appraiser classifies all lands on an annual basis as either agricultural or nonagricultural.<br><br>To be assessed as agricultural, land must be used for a bona fide agricultural purpose and landowners must file a return by March 1 of each year. The process applies to all counties according to Florida Statute 193.461. Tax assessors classify land by type of agricultural use (citrus, row crop, etc.). Table 1 shows the current distribution of land owned by Mosaic Fertilizer and CF Industries in each county by use. The DAEIS Economic Analysis reports there are 190,211 existing acres to be mined by Mosaic and CF Industries for rock phosphate, and 100 percent are currently in agricultural uses. Data from county assessors in each of the five counties where mines operate or would operate was analyzed. The data show that less than 100 percent of the land owned by Mosaic and CF Industries is in use for agriculture. The percent of | Comment Noted - Analysis is being revised to more accurately reflect the existing land uses on the proposed mine sites. Information provided by Eco NW is being verified from other sources. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | mine land owned by Mosaic and CF Industries presently in agricultural use ranges from 13.84 percent in Polk County to 59.94 percent in Hardee County.<br><br>The Excel workbook developed by CH2MHill to prepare the DAEIS shows 24.32 percent of the existing land to be mined across the five counties is in citrus. However, county assessors' records show the only two counties with mine land currently in citrus and the highest percentage is in Hardee County with 11.21 percent. The Excel workbook developed by CH2MHill to prepare the DAEIS shows 75.36 percent of the land is currently in agricultural use as pasture, but the assessors' data show it is no more than 53.81 percent in any one county.<br><br>The DAEIS Economic Analysis assumes that all future mine acreage in the five counties is currently in agricultural use. Therefore, the DAEIS Economic Analysis significantly overstates the amount of agricultural output, income, and jobs on existing mine lands, and attributes overstated losses in agricultural output, income, and jobs as a result. | |
| ENW-4 | 4. The assumed price of phosphate rock is understated. The DAEIS Economic Analysis assumes revenue per metric tonne of phosphate of $67.11 FOB mine. The source of the assumption is the 2006 to 2010 average price reported by the U.S. Geological Survey (USGS) in the 2011 Mineral Commodity Summary.<br><br>For a multitude of reasons, this metric does not provide the proper measure for estimating the expected price of phosphate rock. For example, the USGS prices include data from non arms-length transactions. Specifically, it includes estimated revenue for rock mined by integrated fertilizer manufacturers that is consumed internally to produce finished fertilizer products. Many phosphate rock producers in the United States operate manufacturing plants that convert mined phosphate rock into finished fertilizer products. They report a phosphate rock cost, which is far below what the market price would be in an arms-length transaction. The USGS estimate included this internal transfer cost estimate in their price estimate. Accordingly, the $67.11 USGS estimate should not be viewed as the price by which phosphate rock could be obtained in the 2006 to 2010 time frame. Publicly available data from various sources, demonstrates that the USGS figure of $67.11 is far below market price for phosphate rock.<br><br>As one example, the Global Trade Atlas (GTA), which is produced by Global Trade Information Services, Inc., reports the fair market value based on arms-length transactions. The GTA provides monthly data on phosphate rock sales volumes and prices, which are determined by global supply and demand.<br><br>According to the GTA, the average phosphate rock FOB mine price per tonne was $98.05 between 2006 and 2010, for nine countries that sold at least 1,000,000 tonnes annually and make up about 98 percent of world phosphate rock sales. Therefore, a rock sales price of $98.05 per tonne represents a more | The information presented in the Mineral Commodity Survey, which was used to estimate the market price for phosphate rock in the DAEIS, is influenced by internal transactions reported by multilayered mining and fertilizer corporations, and may not reflect market prices. Appendix H of the Final AEIS includes revised information from the U.S. Department of Commerce, Bureau of Census, Commodity 2510 that more accurately reflects the market price of the phosphate rock. |

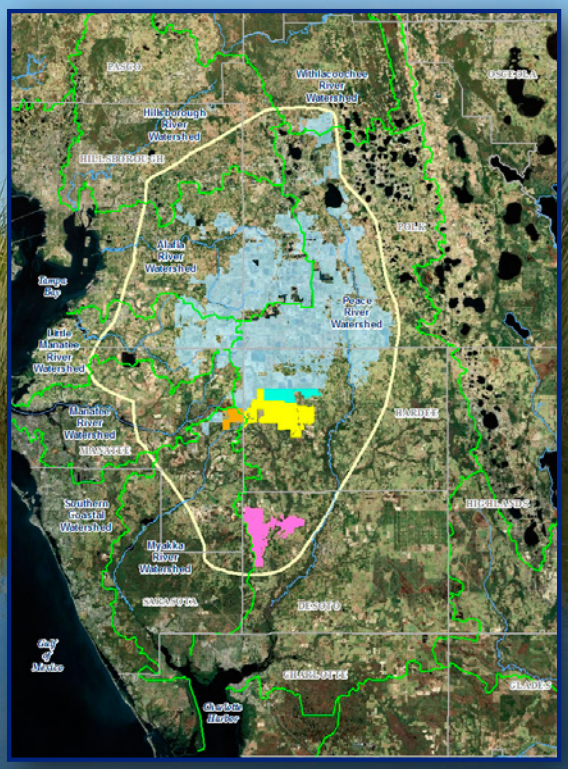
## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | accurate reflection of global phosphate rock sales prices for the referenced time frame.<br><br>It's also important to note that since 2008, the market prices for phosphate rock have been above $95 with $137 being the average price for years 2008 - 2011. Notably, each week the "Fertilizer Week" publishes current spot prices for phosphate rock. The average price listed for calendar year 2011 was $185 per metric tonne FOB Morocco and $186 per metric tonne FOB Morocco for year-to-date calendar 2012. "Fertcon" and "Green Market" are two other sources of published price data. Some other sources may also include calculated long term projections of future phosphate rock prices; these may be useful in understanding the economics associated with the purchase of phosphate rock.<br><br>Therefore, while it is consistent with other data in the DAEIS to use historical GTA data as a source of general information, specific economic or permitting analyses should likely reference the latest spot prices or calculated long term rock prices to accurately model and/or understand their projected impacts when evaluating mines in Florida. | |
| ENW-5 | 5. Severance taxes are understated. As explained below, total severance taxes in the DAEIS are understated by approximately 9.3 percent. The DAEIS Economic Analysis calculated state severance tax as follows: "State severance tax rate was assumed to be $1.61 per metric tonne in the first decade, which is the rate collected by the state for the period from January 1 to June 30, 2012." While the rate per ton agrees with Florida Statute 211.3103 (11)(c)(2), the definition of a ton does not. The DAEIS mistakenly uses metric tonnes in its calculation of severance taxes. The Law of Florida 211.30 (19) defines tons as 2,000 pounds.<br><br>Therefore, total severance taxes in the DAEIS are understated by approximately 9.3 percent (the difference between 2,000 pounds per ton, as defined by Florida law, and approximately 2,205 pounds per metric tonne.) | State severance tax was assumed to be $1.61 per metric tonne for 1st decade and increase to $1.81 for the remaining 4 decades. The revenue calculation is being revised to reflect the charge per short ton in accordance with the State law. |
| ENW-6 | 6. Phosphate production in Hamilton County, Florida is overstated. Phosphate production in Hamilton County should be assumed to be 2.79 million tonnes.<br><br>The DAEIS Economic Analysis states, "Hamilton County phosphate production was assumed to be 6.15 million tonnes annually, which is their average annual level of production over the last 7 years. While Hamilton County is not in the study area, its phosphate production does affect the total severance tax revenues collected by the State, and portion of these revenues returned to the counties in the CFPD."<br><br>According to the U.S. Department of Labor Mine Safety and Health | One of the two mines that have been operating in Hamilton County has closed. The analysis presented in Appendix H was revised to reflect current production in Hamilton County. |

## Mosaic - Comments

| Submission and Comment Number | Comment | Response to Comment |
|---|---|---|
| | Administration, PCS Phosphate is the only company mining phosphate rock in Hamilton County. PCS Phosphate is a wholly owned subsidiary of the Potash Corporation of Saskatchewan, Inc.<br><br>PCS Phosphate operated two phosphate mines in 2011. One was the Swift Creek Mine in Hamilton County Florida. The other was the Lee Creek Mine in Aurora, North Carolina.<br><br>In 2011, the Swift Creek Mine in Hamilton County, Florida produced 2.697 million tonnes of phosphate rock. The mine has the capacity to produce 3.60 million tonnes a year. Mine production in Hamilton County, Florida over the seven years 2005 through 2011 averaged 2.79 million tonnes. The DAEIS Economic Analysis assumed that the "average annual level of production over the last 7 years" was 6.15 million tonnes, which is incorrect. | |

# Appendix B
# Offsite Alternatives Screening for the Final AEIS on Phosphate Mining in the CFPD



# Offsite Alternatives Screening for the Final AEIS on Phosphate Mining in the CFPD

PREPARED FOR: U.S. Army Corps of Engineers, Jacksonville District

COPY TO: U.S. Environmental Protection Agency
Florida Department of Environmental Protection

PREPARED BY: CH2M HILL

DATE: December 2, 2012
Revised February 7, 2013

PROJECT NUMBER: 418237.07.01

## 1.0 Introduction

The range of alternatives identified by the U.S. Army Corps of Engineers (USACE), including alternatives proposed by the permit Applicants and alternatives suggested by others during the scoping period and in comments on the Draft Areawide Environmental Impact Statement (AEIS) on Phosphate Mining in the Central Florida Phosphate District (CFPD), are discussed in the following paragraphs. Review of these alternatives within the AEIS will assist the USACE in making decisions regarding the four pending applications for phosphate mining projects within the CFPD. The alternatives that the USACE identified, based on input from multiple sources and its independent judgment, are grouped into five major categories that follow the USACE Regulatory Program National Environmental Policy Act (NEPA) Implementation Procedures for permit application decision options: issue the permit, issue with modifications or conditions, or deny the permit. The five major categories of alternatives are:

1. The No Action Alternative (as defined by Title 33, Code of Federal Regulations [33 CFR] Part 325, Appendix B, Paragraph 9.b.5(b)) – no construction requiring a USACE permit.
2. The Applicants' Preferred Alternatives – as described in their Clean Water Act Section 404 permit applications.
3. Offsite Alternatives – alternative locations for one or more mining projects, within the CFPD, other than the Applicants' Preferred Alternatives.
4. Onsite Alternatives – modifications to the Applicants' Preferred Alternatives, such as buffer areas, to avoid or minimize impacts (discussed in detail in Chapter 5).
5. Functional Alternatives – mining technology alternatives that would avoid and/or minimize impacts such as alternative means of transporting phosphate rock to the beneficiation plant or alternative means of extracting the phosphate rock.

This appendix provides the details of the Tier 1 and Tier 2 screening approach used to evaluate the offsite alternatives (category 3 above) for potential inclusion for more detailed analysis in Chapter 4.

The overall screening process included the following steps to facilitate the identification of possible alternatives:

- Step 1: Conduct Tier 1 screening to eliminate areas not available for mining.
- Step 2: Identify minimum alternative areas that would be reasonable for consideration as alternative mine sites.
- Step 3: Conduct screening for legal ordinances that preclude mining operations.
- Step 4: Identify Tier 2 criteria to be used to evaluate environmental conditions on the remaining alternatives.
- Step 5: Develop and apply decision analysis processes to prioritize Tier 2 criteria.

- Step 6: Apply Tier 2 screening criteria; complete alternative screening to evaluate and compare environmental conditions for the remaining alternatives.
- Step 7: Review for residential setbacks.
- Step 8: Apply prospecting data for each remaining alternative. This last screening step results in the final remaining reasonable offsite alternatives for more detailed analysis in Chapter 4.

## 2.0 Step 1: Conduct Tier 1 Screening to Eliminate Areas Not Available for Mining

The purpose of this initial screening step was to remove from further consideration any land areas within the CFPD that are not viable for phosphate mining. Based on comments received during the scoping period, a number of geographic information system (GIS) data layers were evaluated to determine their potential use as screening criteria. Considering the requirements for viable mining opportunities and the difficulty of obtaining access to certain lands, exclusionary criteria (defined as Tier 1 criteria) were chosen to identify areas where the expectation of future mining would not be reasonable. The data layers representing these exclusionary criteria and the source of the data for each are summarized in Table 1. In the Tier 1 screening process (illustrated in Figure 1), the lands within each of the indicated GIS layers were sequentially removed from consideration as prospective offsite alternatives.

The following descriptions and figures illustrate the individual Tier 1 screening criteria used to identify areas to be eliminated from further evaluation.

### 2.1 Mandatory and Non-Mandatory Phosphate Mine Boundaries

The previously/currently mined lands area is represented by the mandatory and non-mandatory phosphate mine boundaries layer (see Figure 2) from the Florida Department of Environmental Protection (FDEP). This data layer contains the boundaries of all active and inactive mandatory and non-mandatory phosphate mines within Florida as of 2009. These areas have already been mined, are currently being mined, are in some stage of reclamation, or are already approved for mining in the future and therefore are not available as alternatives for evaluation in this process. Non-mandatory phosphate mine boundaries were reviewed for additional exclusion criteria in this evaluation, but have not been included in this screening process because they overlapped with other Tier 1 screening criteria. Therefore, inclusion of the non-mandatory phosphate mine layer was considered redundant. The total area removed by this screening step is 327,379 acres.

**Table 1. GIS Mapping Layers Used as Tier 1 Screening Criteria**

| Criterion or GIS Data Layer Name | Data Layer Source |
|---|---|
| Mandatory and Non-Mandatory Phosphate Mine Boundaries | FDEP |
| Florida Conservation Lands | Florida Natural Areas Inventory (FNAI) |
| Florida Forever - Acquired | FNAI |
| Florida State Parks | Florida Park Service |
| Railroad Corridors | U.S. Department of Transportation |
| Federal Highway System Corridors | Florida Department of Transportation (FDOT) and Florida Railroad Commission |
| Urban Development, Element 1: Florida Developed Lands | FNAI |
| Urban Development, Element 2: Existing Cities or Other Governmental Boundaries | Southwest Florida Water Management District (SWFWMD), 2010 |
| Urban Development, Element 3: Level 1 Florida Land Use and Cover Classification System (FLUCCS) Urban Built-Up | SWFWMD, 2010 |

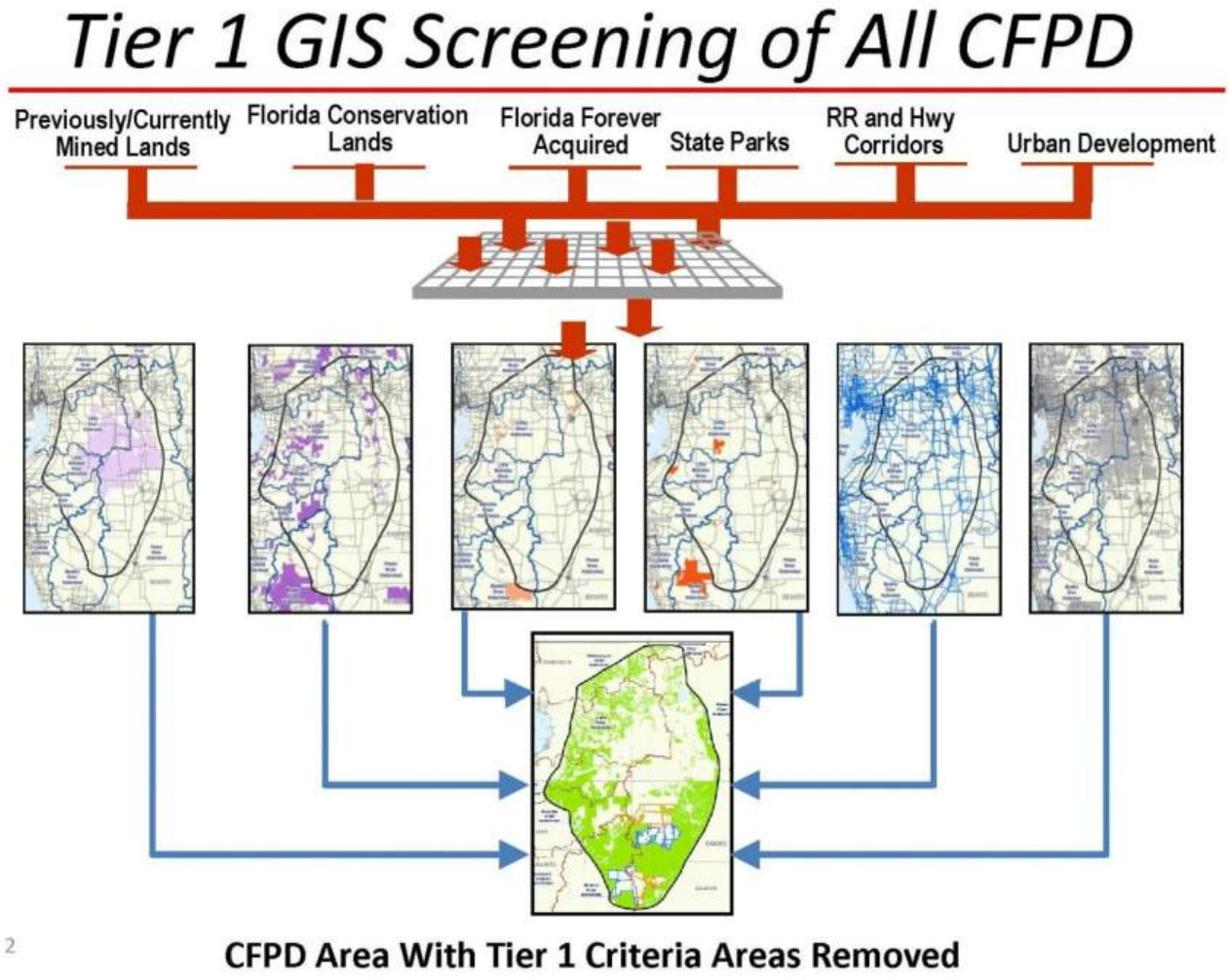



**Figure 1. Conceptual Flow Diagram of the Tier 1 Screening Approach**

## 2.2 Florida Conservation Lands

The Florida Conservation Lands layer (see Figure 3) consists of public (and some private) lands that the FNAI has identified as having natural resource value and that are being managed at least partially for conservation purposes. Because these are primarily publicly owned lands purchased because of their high habitat value, it is not reasonable to expect mining to be allowed on most of these properties. The total area removed from further evaluation by this screening step is 101,048 acres.

## 2.3 Florida Forever Acquisition Lands

The Florida Forever Acquisitions layer (see Figure 4) consists of parcels that have been purchased using Florida Forever funding. Most of these parcels will also be incorporated into the FNAI's Florida Conservation Lands data layer, either as new managed areas (that is, conservation lands) or additions to existing managed areas. These are generally publicly owned lands purchased because of their high habitat value; therefore, it is not reasonable to expect mining to be allowed in these areas. The total area removed by this screening step is 285 acres.

## 2.4 Florida State Parks

The Florida State Parks layer (see Figure 5) contains Florida State Park geographic boundaries and associated information. These are generally publicly owned lands purchased because of their high habitat value; therefore, it is not reasonable to expect mining to be allowed in these areas. The total area removed by this screening step is 4,431 acres.

## 2.5 Railroad and Highway Corridors

The railroad and highway corridors layers (see Figure 6) contain the subset of The Rail Network and the subset of the Federal-Aid Highway System within the CFPD. These existing railroad and highway corridors would not be reasonably mineable. The total area removed by this screening step, which includes a 200-foot buffer along each rail or highway corridor, is 29,889 acres.

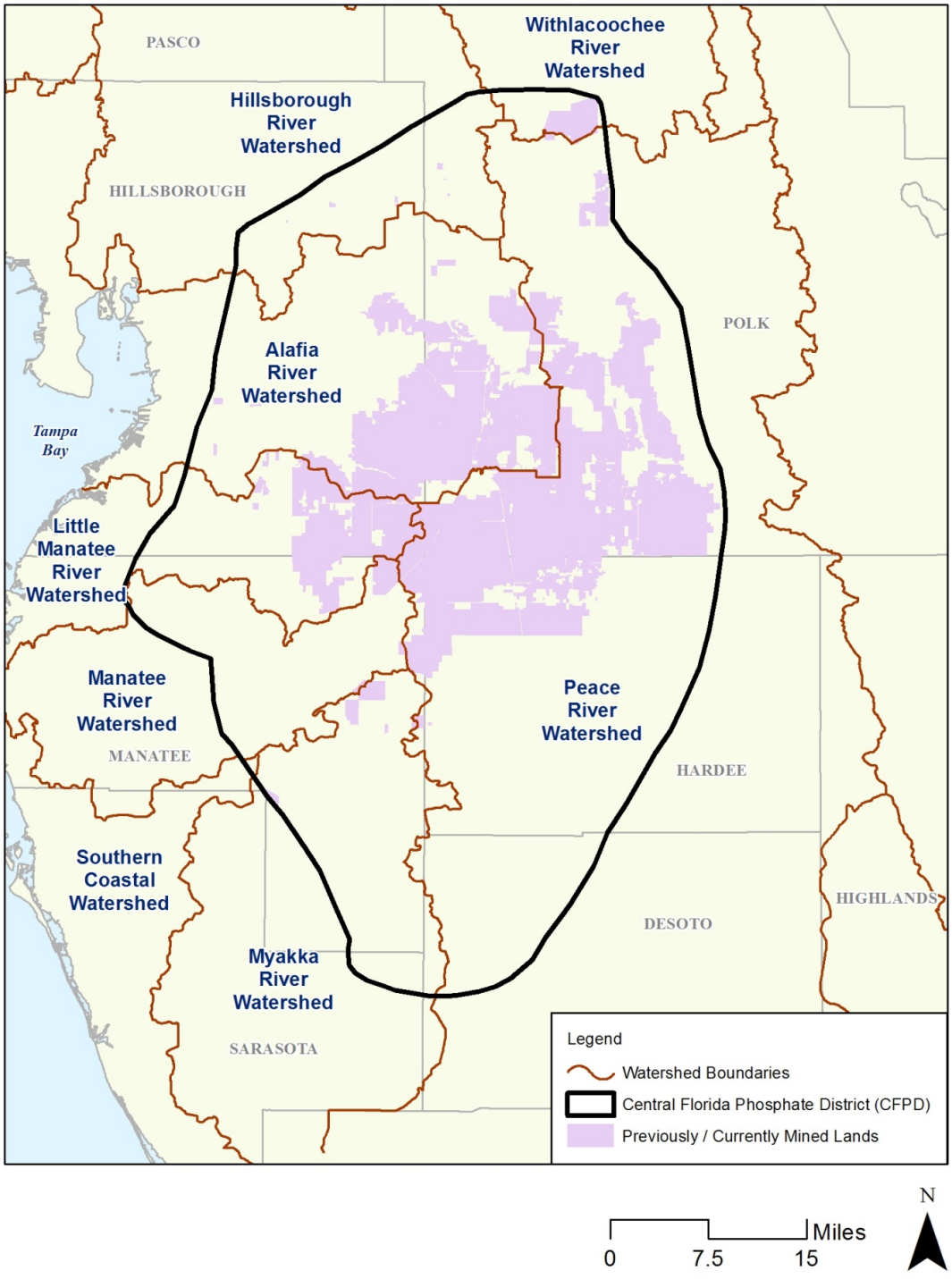



**Figure 2. Tier 1 Overlay – Mandatory and Non-Mandatory Phosphate Mine Areas Previously Permitted**

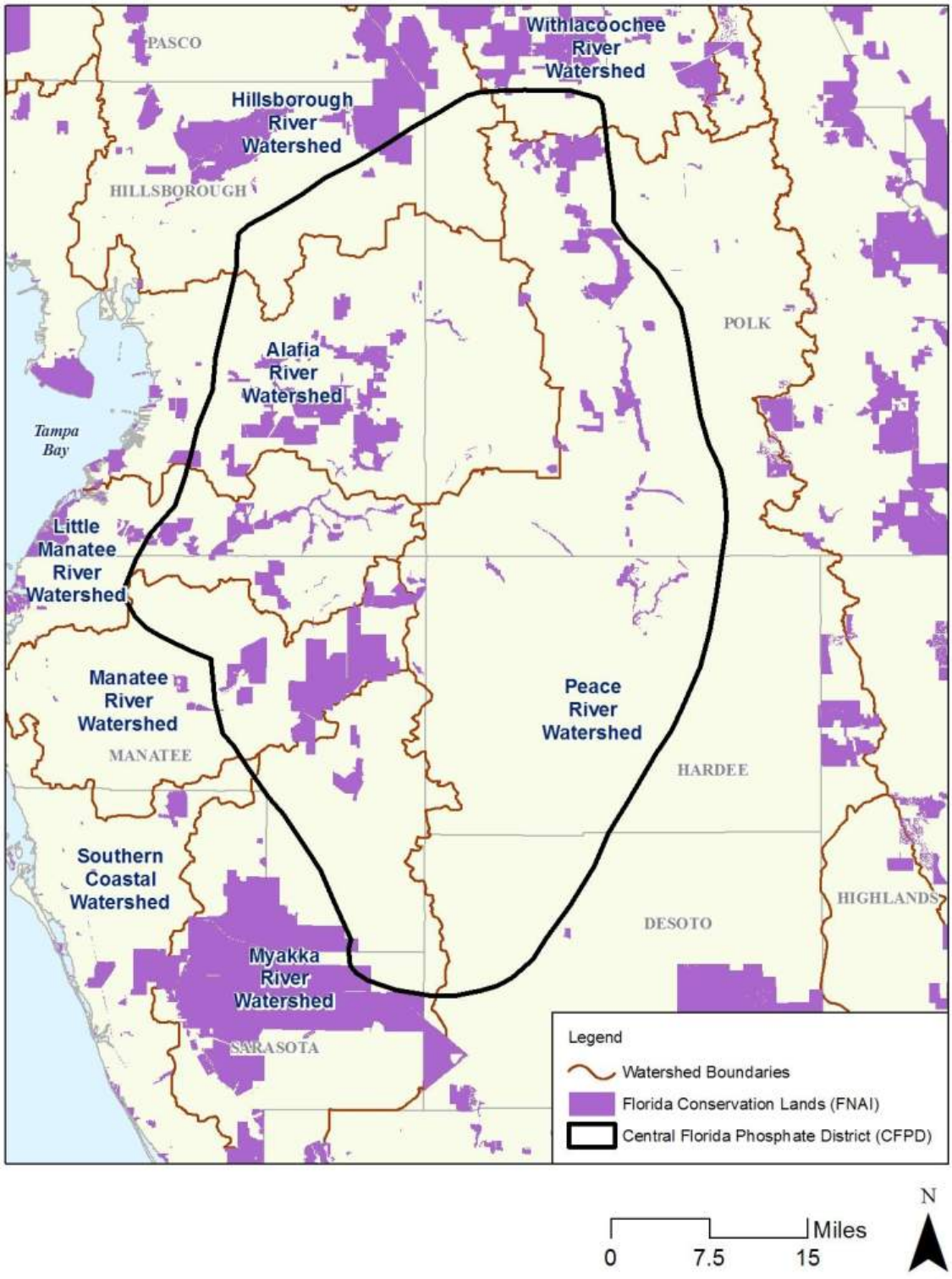



**Figure 3. Tier 1 Overlay - Florida Conservation Lands**

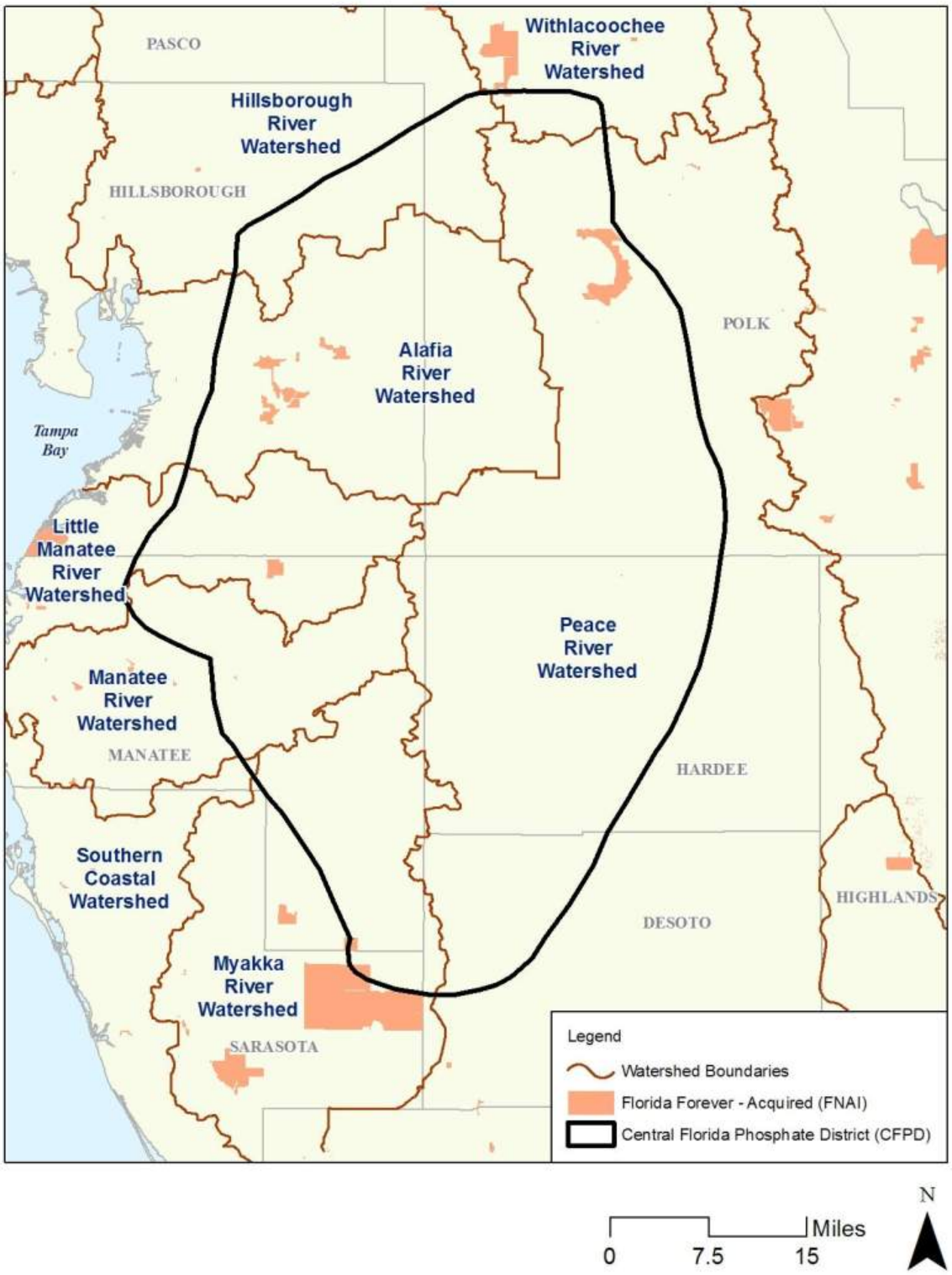



**Figure 4. Tier 1 Overlay - Florida Forever Acquired Lands**

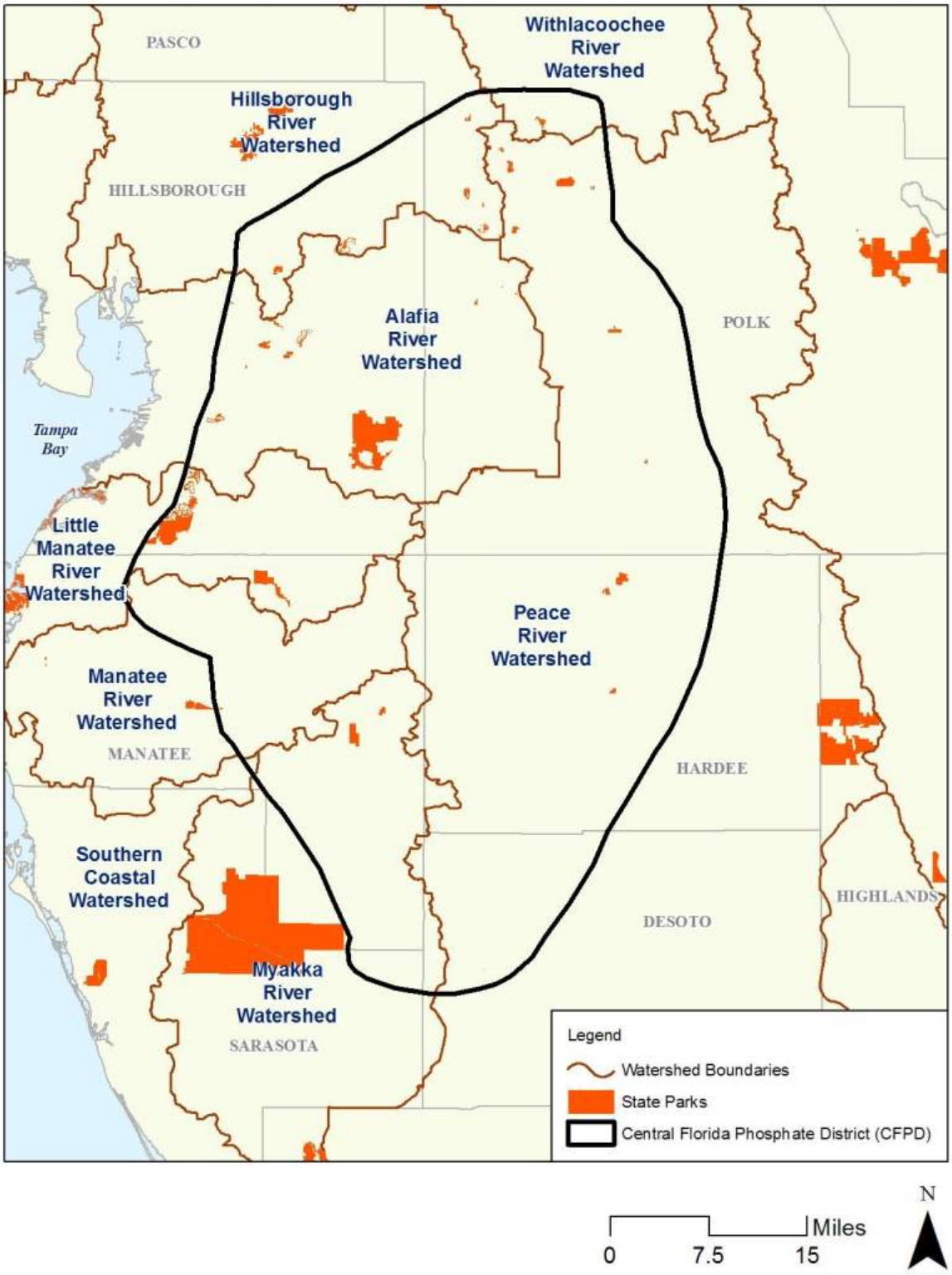



**Figure 5. Tier 1 Overlay – Florida State Parks**

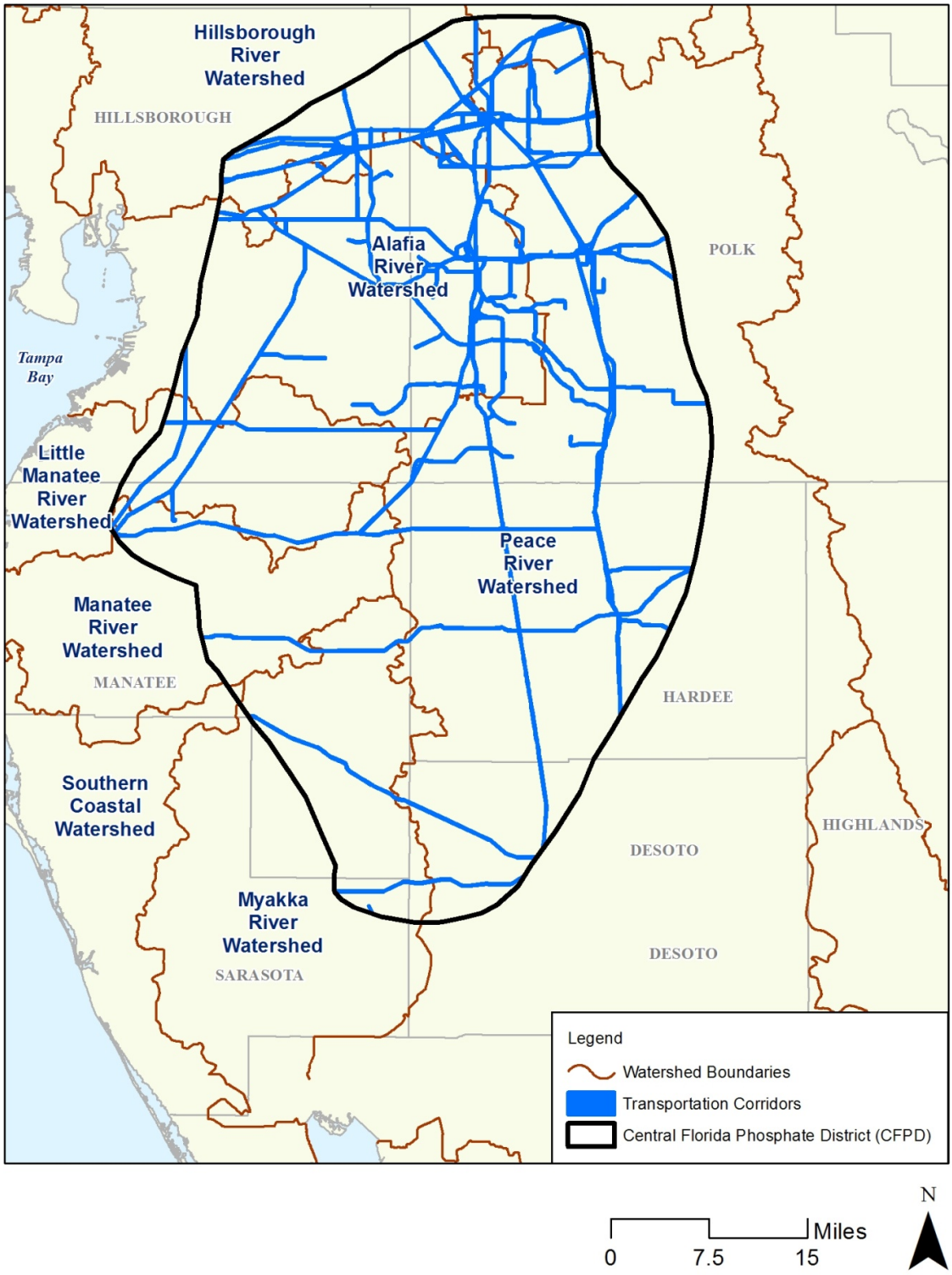



**Figure 6. Tier 1 Overlay - Railroad and Major Highway Corridors**

## 2.6 Urban Lands

The Urban Lands screening criteria (see Figure 7) used three different GIS data layers to identify urban and developed areas. The three data sets used were:

- The Florida Developed Lands layer
- A layer representing city, municipal, and township boundaries throughout the CFPD
- The SWFWMD 2010 FLUCCS data layers

The Florida Developed Lands layer was created in 2007 by FNAI to update the comprehensive FLUCCS land cover data layers previously completed between 1995 and 2004 by Florida's five water management districts. The FNAI defined developed lands as areas with buildings and other impermeable surfaces such as parking lots and roads and included most of FLUCCS Level 1: 1000 Urban and Built-up and 8000 Transportation, Communications, and Utilities as a baseline. The SWFWMD FLUCCS layer contains the different land uses within the SWFWMD region as of 2010, categorized according to the FDOT FLUCCS (FDOT, 1999). For this part of the screening, the Level I classification, the most general level, was used to identify the areas classified as urban and built-up. Urban and built-up land consists of areas of intensive use, with much of the land occupied by man-made structures. Included in this category are cities, towns, villages, strip developments along highways such as those occupied by malls, shopping centers, industrial and commercial complexes, and institutions that in some instances are isolated from urban areas such as hospitals and prisons. Other land uses sometimes associated with development, such as parks, golf courses, and agricultural lands, are not included as developed lands in this data layer but in the parks data layer. The total area removed by this screening step is 257,178 acres.

## 2.7 Aggregate of the Tier 1 GIS Screening Criteria

The aggregate of the areas removed from additional evaluation as potential alternative mining locations as a result of application of the Tier 1 screening criteria (Figures 2 through 7) is shown in Figure 8. The total area removed was 720,209 acres (see Table 2). Figure 9 shows the areas in the CFPD that remained under consideration for further evaluation for potential offsite alternative mining locations following Tier 1 screening. The remaining areas represent 628,524 acres, which was used to develop potential offsite alternatives to the Applicants' Preferred Alternatives.

**Table 2. Acreages Removed from Further Consideration as Potential Alternatives by Tier 1 Screening**

| Screening Criterion | Acres |
|---|---|
| Prior, Current, and Permitted Mined Lands | 327,379 |
| Florida Conservation Lands | 101,048 |
| Florida Forever Acquired Lands | 285 |
| State Parks | 4,431 |
| Railroad and Highway Corridors | 29,889 |
| Urban Land Use | 257,178 |
| **Total** | **720,209** |

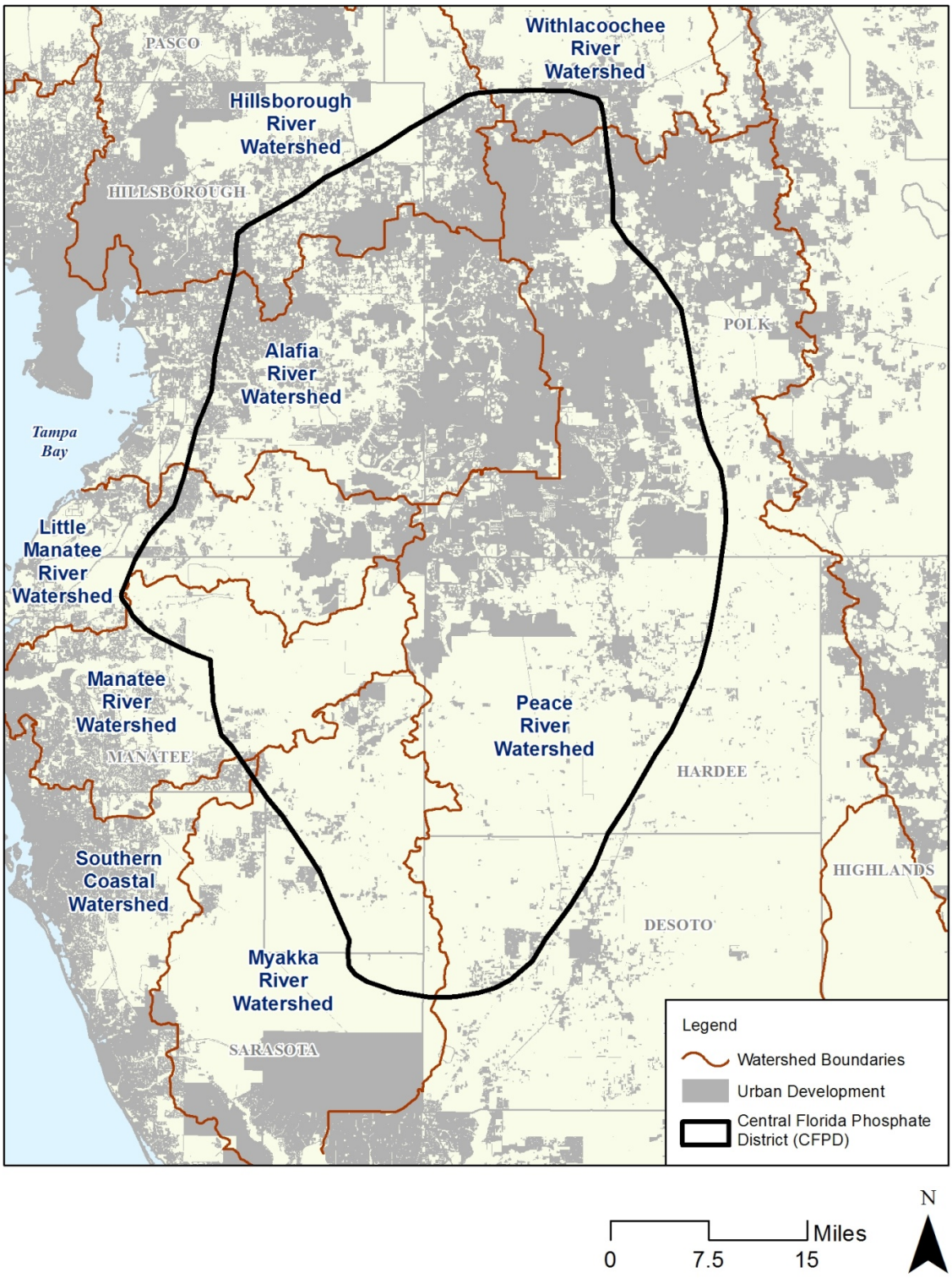



**Figure 7. Tier 1 Overlay - Urban Lands**

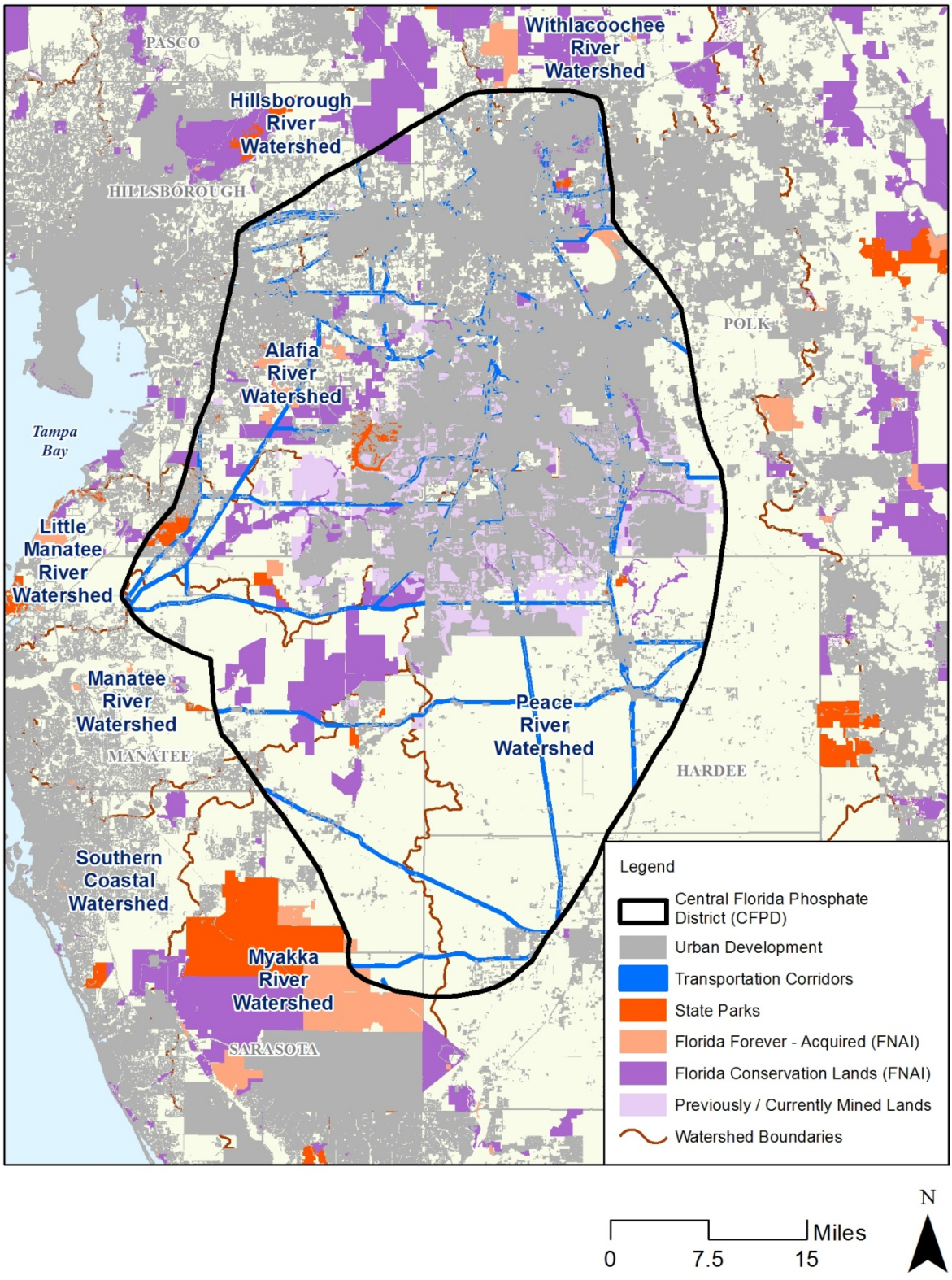



**Figure 8. Tier 1 Overlays – Aggregate of All Tier 1 Criteria**

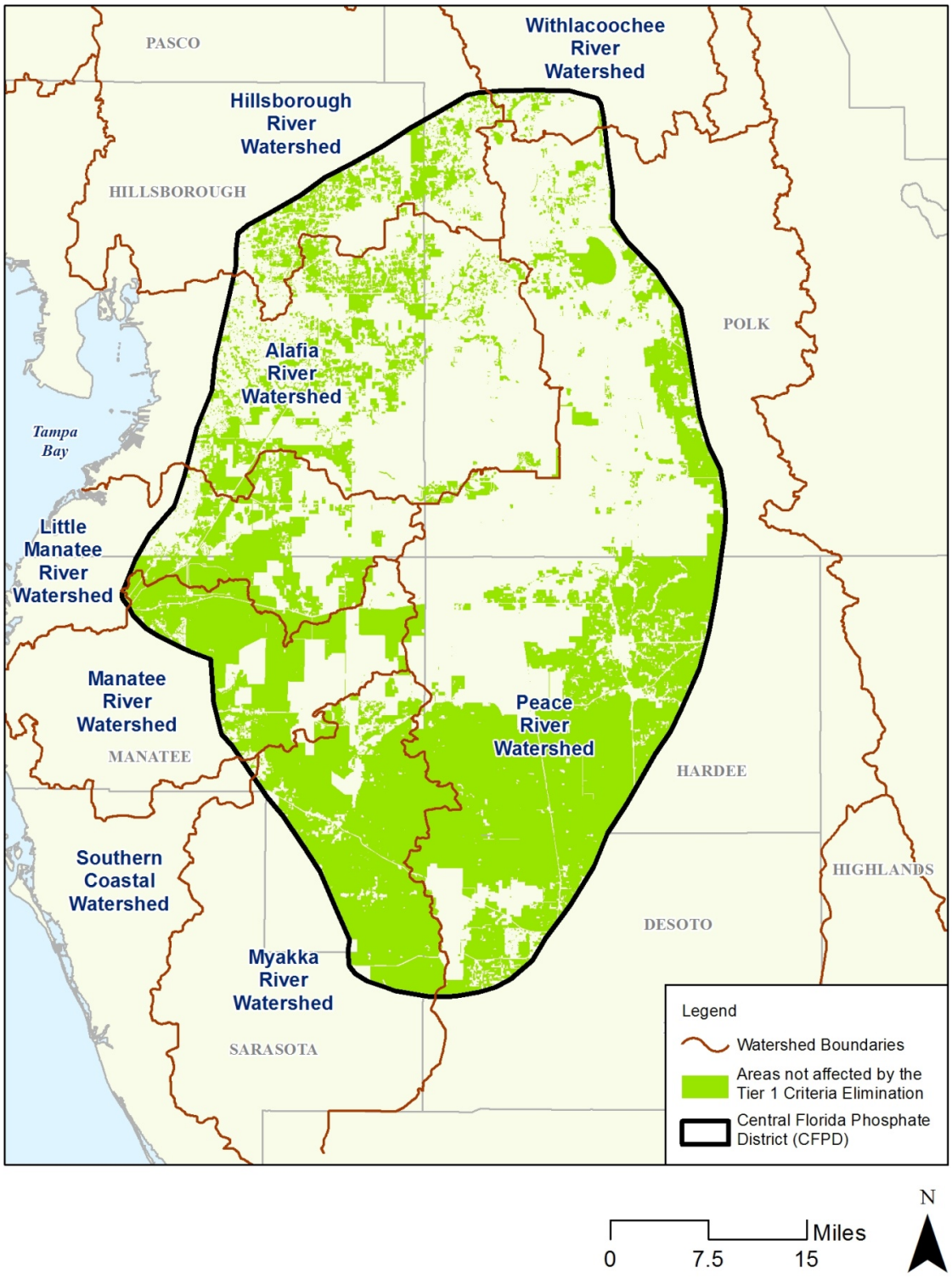



**Figure 9. Areas Remaining in the CFPD for Consideration of Offsite Alternatives Following Tier 1 Screening**

## 3.0 Step 2: Identify Minimum Size Areas that Would Be Reasonable for Consideration as Alternative Mine Sites

The potential for an alternative to meet the purpose and need is based not only on the presence of suitable phosphate ore, but also on the likelihood that a selected mine tract would be of sufficient size to support a mining operation. This step identifies the minimum land area on which it is considered feasible to establish a stand-alone mine. That area includes the required infrastructure, clay settling areas [CSAs], and either access to an existing beneficiation plant or justification for construction of a new plant. Following the Tier 1 evaluation, additional GIS data were used to identify parcels of land in the CFPD that (1) were the minimum size to support a mining operation and (2) were potentially available for acquisition based on the number of land owners, a large number of which might affect the ability to acquire these parcels.

From discussions with the FDEP, as well as with the Applicants, and through a review of prior mining parcels, there are three categories of mineable locations that could be considered for alternative mining sites. The first category consists of relatively small parcels referred to as "infill" parcels. These are generally lands that are acquired after the primary mine area has been purchased, planned, permitted, and in many cases mined to some level of completion. It was determined that mine permits have been issued for infill parcels as small as a few acres to hundreds of acres. However, areas where these small parcels had been permitted typically had one or more common boundaries with an existing mine and had access to an existing beneficiation plant within 10 miles (Chapter 3 discusses the basis for this constraint in Section 3.1.5). Using the 54,000 acres Four Corners Lonesome Mine as an example, over the past 10 years approximately 1,000 acres have been added to this mine. The infill parcels ranged from less than 1 acre to over 300 acres; none could have been reasonably considered as stand-alone mine sites because of their small size. Therefore, this category of infill parcels was not considered to be a reasonable alternative.

The second category of potentially mineable parcels is called satellite parcels. These are also small parcels, but do not adjoin existing operating mines; they must be within 10 miles of an existing beneficiation plant and be accessible through a corridor available to the operator for required infrastructure to connect with that plant. These smaller parcels that would not meet these criteria would also not be of a reasonable size to consider as an alternative to one of the Applicants' Preferred Alternatives.

The third category includes large contiguous sites of sufficient size to support a new stand-alone mine site or justify an extension of an existing mine. Discussion with the Applicants and the FDEP indicated that a single parcel would need to be on the order of 600 acres to be sufficient to support 2 to 3 years of mining, although it might not accommodate the area needed for a CSA. Individually, these smaller parcels would not be sufficient to warrant the investment in a new beneficiation plant and related infrastructure. However, combinations of these 600-acre parcels, if they could be acquired, might reasonably comprise an area that could form the basis for the third size category; that is, one large enough to be evaluated as an alternative to one or more of the Applicants' Preferred Alternative locations. Land ownership, along with other factors such as suitable phosphate ore, is an important consideration that affects whether sufficient parcels can be obtained or mineral rights acquired to meet the needs for an economically feasible mining operation. Because mining companies do not have the right of eminent domain, they must be able to acquire the properties or obtain lease agreements through negotiation with each property owner. Experience with prior acquisition of land by mining and other land acquisition companies (Rayonier, 2012, personal communication; McCuen, 2012, personal communication) has demonstrated that if more than 10 land owners own a parcel, the negotiation for the land generally is unsuccessful, usually because of unwilling sellers or land prices that make the acquisition uneconomical. To locate parcels that might reasonably be acquired to form larger, mineable areas, GIS screening was used to identify 600-acre polygons that remained after the Tier 1 screening and that had 10 or fewer land owners. This screening indicated more than 500 polygons (shapes of aggregated, potentially mineable parcels) of approximately 600 acres each that had 10 or fewer land owners (see Figure 10). These polygons were then combined to form potential alternatives to the Applicants' Preferred Alternatives in the CFPD.

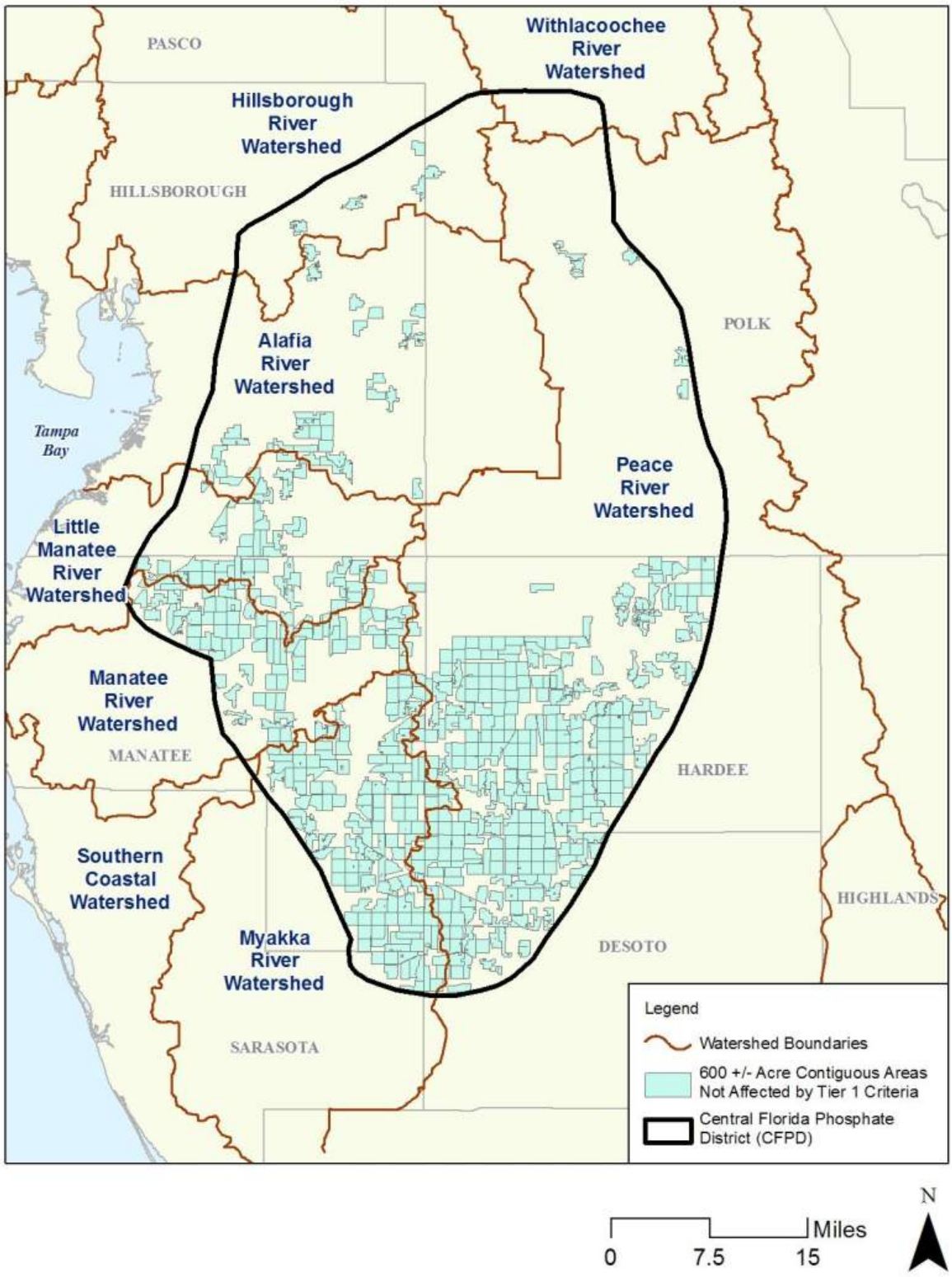



**Figure 10. Preliminary Suite of 600-acre Polygons for Identification of Potential Offsite Alternatives**

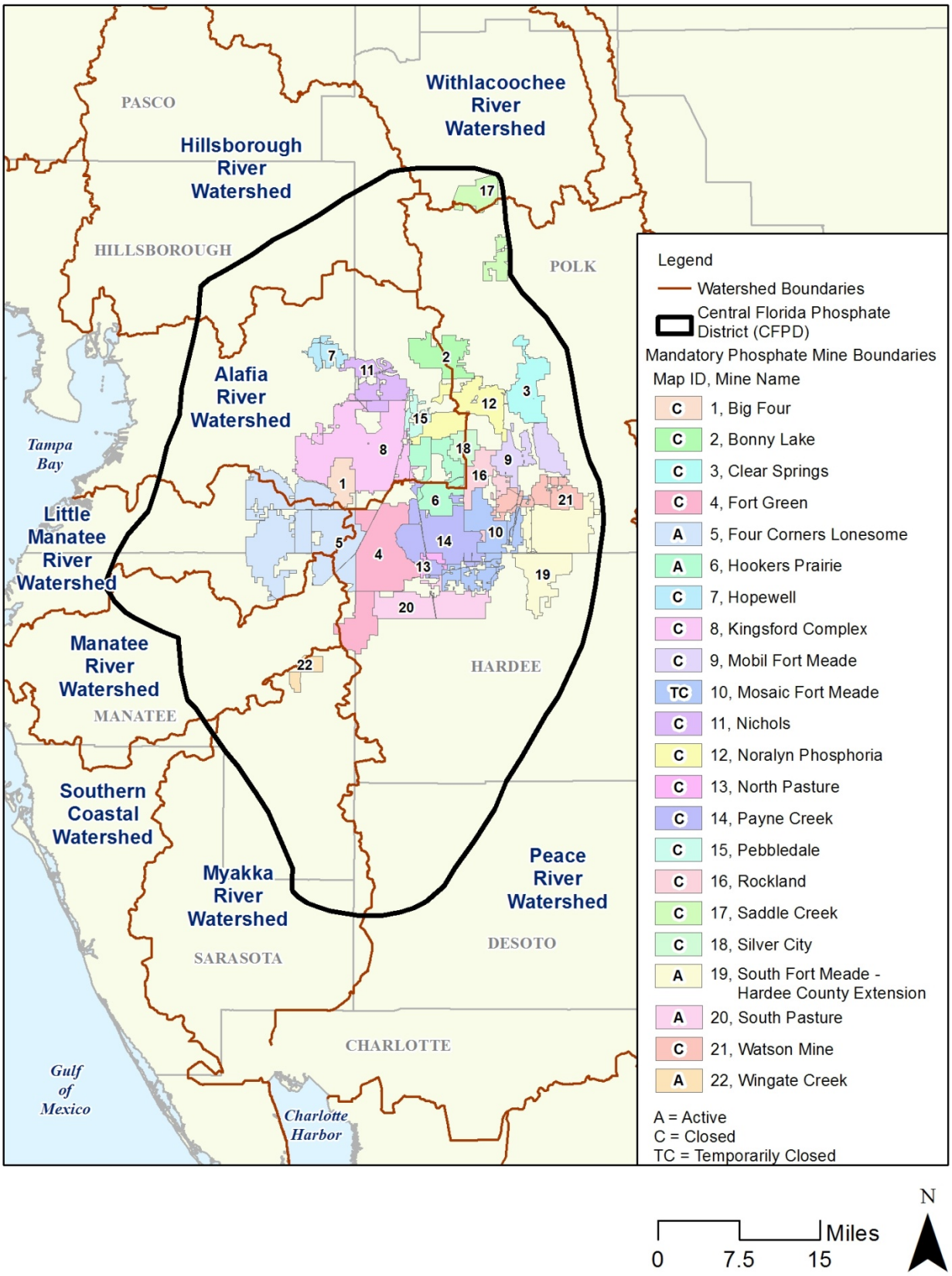
To determine the minimum area that might be reasonable, through combining the remaining 600-acre parcels into a single mine alternative, the USACE performed a survey to examine the size of current and past stand-alone mines with beneficiation plants in the CFPD (Figure 2-15, FDEP, 2007c). The acreages of these mines (historically and currently permitted, including both Mandatory and non-Mandatory areas) are shown in Table 3. The previously and currently permitted mines since 1975 are shown in Figure 11. The average acreage of the mines operating since the mandatory mining program began (July 1, 1975) is 11,581. Each of these mines (some of which represent mergers with other mines) has, or previously had, its own beneficiation plant. Therefore, the USACE determined that a tract of land significantly larger than 600 acres would be necessary to support a stand-alone mine due to the size of the necessary infrastructure and the major investment costs associated with a new beneficiation plant. Mosaic, for example, estimates construction and startup costs of approximately $900 million for its beneficiation plant and infrastructure for the Ona Mine. CF Industries operates the nation's most recently constructed phosphate rock mine and ore beneficiation plant in Hardee County, with construction costs alone estimated at $135 million (CF Industries, 2010b).

To understand the minimum acreage that might be required for a reasonable stand-alone mining tract, which would then be used to develop alternatives to the Applicants' Preferred Alternatives, the USACE evaluated a reasonable, minimum size alternative that could be used for mining in the CFPD by combining multiple 600-acre parcels, as described above. To facilitate the review, the following assumptions were made:

- The uninterrupted operation of the beneficiation plant supporting a mine is dependent on the number of operational draglines. Typically, phosphate mining operations include two or more draglines, both for the efficiency of the operation and for backup to ensure there is sufficient ore to support beneficiation plants operating at normal capacity. For estimating a reasonable mine size, it was assumed that two draglines would be operating, each mining approximately 180 acres per year (FIPR Institute, 2013) for an annual total mining rate of 360 acres per year. The size of a mine must also incorporate the required infrastructure, in addition to the dragline, including utility corridors and, unless an existing CSA were adjacent and available, a new, initial CSA. A new stand-alone mine would need sufficient size to provide for a new beneficiation plant, while a satellite mine or mine extension would need to be contiguous or in proximity of the existing Wingate East or South Pasture Extension beneficiation plants.

- Approximately 9,000 tons of phosphate rock was estimated to be available per acre. This value was averaged from the reported range of pebble rock in the CFPD of 3,000 to 15,000 tons per acre (Scott and Cathcart, 1989) and also is the value reported by the FIPR Institute (2013). This value is nearly twice the reported recoverable reserves reported by CF Industries (109.6 million tons on 22,200 acres) in its 2008 Annual Report.

Using these assumptions, production by two draglines would provide approximately 3.2 million tons of rock per year to the beneficiation plant, which is reasonably within range of the 3.5 to 3.6 million tons per year reportedly beneficiated by CF Industries at the South Pasture Mine. Production of 3.2 million tons per year would be expected to be sufficient to support the capital investment of a small beneficiation plant operation with a mine life of approximately 22.4 years. From this analysis, the USACE determined that tracts of land of approximately 8,100 acres would be required for a stand-alone mine (22 years x 360 acres per year = 8,064 acres) supporting the operation of a small beneficiation plant. This is within range of the production rate for the CF Industries Hardee County plant (3.6 million tons per year), but less than the production rate of the existing beneficiation plant and the one associated with Mosaic's Preferred Alternatives (6 million tons per year maximum rate at 85 percent capacity). The 8,100 acres is also smaller than the average 11,437 acres per mine seen in Table 3, indicating that 8,100 acres, while meeting the NEPA requirement for evaluating potential alternatives to the locations of the Applicants' Preferred Alternatives, is substantially smaller than the average size mine historically considered for mining in the CFPD. Combining the 600-acre parcels into reasonable areas (minimum of 8,100 acres) for potential mining alternatives provides flexibility for analyzing alternatives to the Applicants' Preferred Alternatives because they either: (1) if within 10 miles of an existing beneficiation plant, they may provide alternatives to mine expansions without necessarily creating the need for an additional plant, (2) if greater than 10 miles from an existing beneficiation plan, they provide alternatives that could support a small beneficiation plant, or (3) may be combined to provide alternatives that account for the economics of a larger mine and beneficiation plant or to account for site-specific situations where the actual reserves are less than the reserved levels assumed in this analysis.




*Source: FDEP, 2012a; Updated: Allen, personal communication, 2013*

**Figure 11. Previously and Currently Permitted Mines in the CFPD**

## Table 3. Historically Permitted Phosphate Mines in the CFPD

| Mine Name | Mandatory/Non-Mandatory | Mine Company [a] | Acres |
|---|---|---|---|
| Big Four | Mandatory | Mosaic | 5,962 |
| Bonny Lake | Mandatory | Mosaic | 5,093 |
| | Non-Mandatory | Mosaic | 5,140 |
| Clear Springs | Mandatory | Mosaic | 6,825 |
| | Non-Mandatory | Mosaic | 4.235 |
| Fort Green | Mandatory | Mosaic | 30,648 |
| | Non-Mandatory | Mosaic | 653 |
| Four Corners Lonesome | Mandatory | Mosaic | 51,670 |
| Hookers Prairie | Mandatory | Mosaic | 8,465 |
| | Non-Mandatory | Mosaic | 6,062 |
| Hopewell | Mandatory | Mosaic | 2,661 |
| | Non-Mandatory | Mosaic | 1,451 |
| Kingsford Complex | Mandatory | Mosaic | 23,833 |
| | Non-Mandatory | Mosaic | 14,080 |
| Mobil Fort Meade | Mandatory | MobilExxon | 6,042 |
| | Non-Mandatory | MobilExxon | 7,212 |
| Mosaic Fort Meade | Mandatory | Mosaic | 16,689 |
| | Non-Mandatory | Mosaic | 1,842 |
| Nichols | Mandatory | Mosaic | 7,382 |
| | Non-Mandatory | Mosaic | 3,154 |
| Noralyn Phosphoria | Mandatory | Mosaic | 7,041 |
| | Non-Mandatory | Mosaic | 9,331 |
| North and South Pasture | Mandatory | CF Industries Inc | 16,046 |
| Payne Creek | Mandatory | Mosaic | 12,775 |
| | Non-Mandatory | Mosaic | 9,011 |
| Pebbledale | Mandatory | Mosaic | 2,334 |
| | Non-Mandatory | Mosaic | 1,147 |
| Rockland | Mandatory | US Agri Chemicals | 3,993 |
| | Non-Mandatory | US Agri Chemicals | 3,583 |
| Saddle Creek | Mandatory | Williams Company | 5,245 |
| | Non-Mandatory | Williams Company | 4,718 |
| Silver City | Mandatory | Estech Inc | 1,625 |
| | Non-Mandatory | Estech Inc | 2,934 |
| South Fort Meade | Mandatory | Mosaic | 17,078 |
| | Non-Mandatory | Mosaic | 200 |
| Watson Mine | Mandatory | Estech Inc | 5,650 |
| | Non-Mandatory | Estech Inc | 5,116 |
| Wingate Creek | Mandatory | Mosaic | 3,128 |
| | | **Mandatory Phosphate Average** | 11,437 |

[a]This is the current company of record.

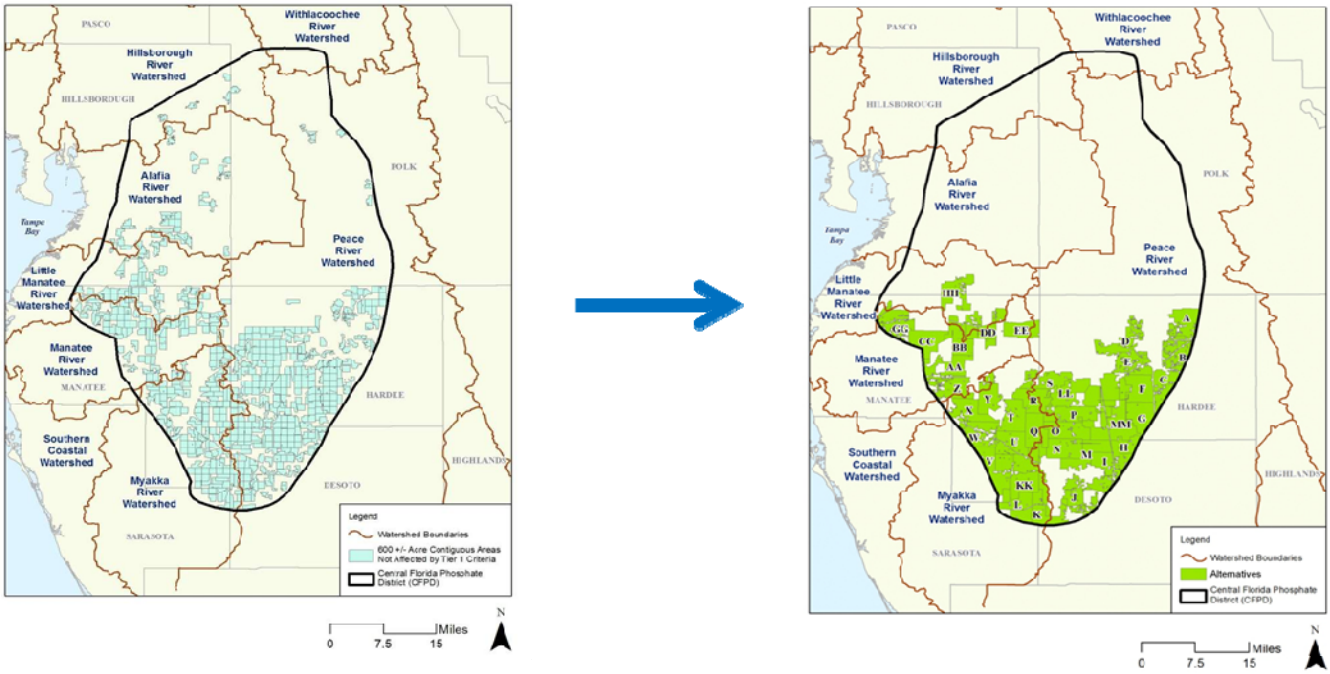
Source: FDEP, 2012a

Therefore, the USACE determined that a minimum alternative size of 8,100 acres would provide a minimum viable size that would be reasonable for purposes of evaluating alternatives. Tracts of land substantially less than 8,100 acres would not be considered suitable for a stand-alone mine. However, these tracts may be considered as extension or satellite parcels if they are adjacent to existing operating mines or are within 10 miles of an existing beneficiation plant.

Although the 8,100 acre minimum mine size was developed for this Tier 2 screening approach, it is possible that on a case-by-case basis, it would not be practicable for every alternative to be of a sufficient size to provide for the beneficiation plant facilities, possible need for an initial CSA, related mine infrastructure needs, setbacks, and onsite avoidance requirements. While the 8,100-acre minimum serves as an effective initial screening approach, the amount of recoverable phosphate from any given site depends largely on the geology and presence/absence of phosphate ore in sufficient quantity and quality, which varies considerably in the southern reaches of the CFPD.

To identify alternative tracts of land in the CFPD of 8,100 acres or more, a GIS overlay was generated that used reasonable boundaries of major roads, water bodies, and other physical features to combine the contiguous 600-acre polygons shown in Figure 10 into 8,100-acre minimum size offsite alternatives. This process of forming these alternatives is summarized in Figure 12. In cases where 600-acre polygons were separated from other areas, such as the isolated outliers seen in the northwestern portion of the CFPD in Figure 10, such that an 8,100-acre alternative could not be reasonably created, the 600-acre polygon was eliminated from the suite of polygons for developing alternatives.

The results of the GIS process described above to develop individual alternatives of a minimum size of 8,100 acres resulted in a set of 39 alternatives that could be considered offsite alternatives to the Applicants' Preferred Alternatives. The total area of these 39 alternatives is 380,409 acres. These preliminary offsite alternatives were assigned letters from A to MM and are shown in Figure 13. Following an update of Tier 1 data for the Final AEIS, it was determined that three of the alternatives (FF, II, and JJ) were less than 8,100 acres and that, based on size and locations that were too far from an existing beneficiation plant, could not be reasonably considered as part of an extension to a mine associated with the Applicants' Preferred Alternatives. Therefore, these alternatives were eliminated and are not included in Figure 13. It was also confirmed that II and JJ, which are just below the 8,100-acre threshold, would still be eliminated if retained for Tier 2 screening because at that stage in the process they would have the two highest percentages of land that is labeled as Federal Emergency Management Agency/National Hydrography Dataset (FEMA/NHD), or floodplain and surface water. The total acreage represented by the remaining 36 alternatives is 330,423 acres.




**CFPD Area With 600-Acre Polygons**

**Contiguous Polygons to Form Offsite Alternatives for Screening**

**Figure 12. Development of Offsite Alternatives from the 600-acre Polygons**

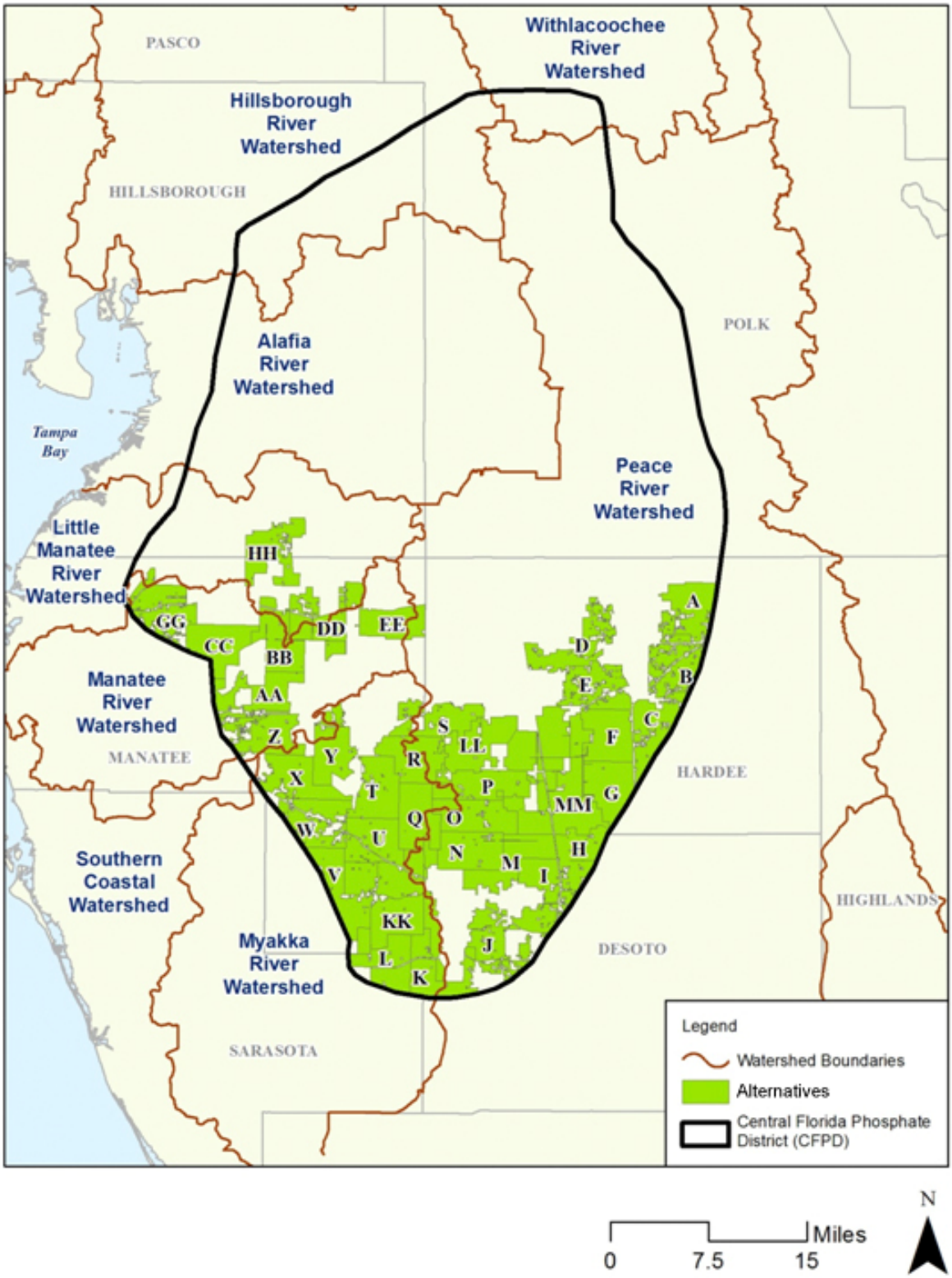



**Figure 13. Preliminary Offsite Alternatives**

# 4.0 Step 3: Conduct Screening for Legal Ordinances that Preclude Mining Operations

The purpose of this step was to identify existing legal impediments (such as zoning decisions or local ordinances) that would preclude mining on one or more of the alternatives. The specific ordinances for Manatee and Sarasota Counties are discussed below.

## 4.1 Manatee County Ordinance

Manatee County has a specific ordinance that effectively precludes phosphate mining or related operations. This ordinance is *Manatee County Ordinance Number 04-39*, filed in 2004 (Manatee County, 2004). This ordinance, known as "The Manatee County Phosphate Mining Code," includes several sections that are directly relevant to potential use of land areas for mining activities. Section E of this ordinance imposes specific restrictions.

Parts 2 and 3 of Section E, Mining Restrictions, of *Manatee County Ordinance Number 04-39* state the following:

> **Section 2**: "With the exception of temporary crossings…phosphate mining activities below the 25-year floodplain elevation shall be prohibited, unless the applicant can demonstrate through competent and substantial evidence that mining activities could occur in the 25-year floodplain and that the floodplain system could be reclaimed or recreated without adverse effects to water quality, water quantity or natural habitats therein," and
>
> **Section 3**: "There shall be no mining activities…in wetlands that are functionally integrated with 25-year floodplains or perennial streams unless the applicant can demonstrate through competent and substantial evidence that mining could occur in such wetlands and that they could be reclaimed or recreated without adverse effects to water quality, water quantity, or natural habitats or species therein."

Section G; Special Protection for Watersheds, includes two further restrictions as follows:

> **Section 1**. "Because the watershed of the Lake Manatee Reservoir, the watershed of the Evers reservoir, and the watershed of the Peace River occupy such a critical role in maintaining the health safety and welfare of the people of Manatee County, the region and the State, no master plans or operating permits shall be approved that would allow mining activities in such watersheds, except where an applicant demonstrates, with competent and substantial evidence, that such mining activity will not cause a degradation of water quality and will not cause adverse impacts on water quantity within the affected watershed," and
>
> **Section 3**: "No clay settling areas or beneficiation plants shall be located within any such watershed, and no processing of phosphate ore shall occur within any such watershed."

Two specific Manatee County reservoir overlays are provided in Figure 14, which identifies the boundaries within which mining activities would be restricted based on the ordinance. This figure also identifies the alternatives under consideration that are partially or completely within those overlay boundaries. This figure illustrates that some or all of 9 alternatives (R, S, Y, Z, AA, BB, CC, DD, and EE) would be affected by the Manatee County restrictions.

## 4.2 Sarasota County Ordinance

Sarasota County has specific ordinances that effectively preclude phosphate mining or related operations in certain areas of the County. The Sarasota County Comprehensive Plan, the Sarasota County Zoning Regulation, and Sarasota County Code Chapter 54, Article X (Mining) include sections that are relevant to the potential use of land areas for phosphate mining activities. Specifically:

> Section 54 – 289 – Standards Part (One) D: "Zoning. No mining activities shall be undertaken on land unless it is been zoned Open Use Mining (OUM), in accordance with the Sarasota County Zoning Ordinance (Appendix A to this code). Application for OUM zoning, unless previously obtained, shall be made concurrent with an application for Master Mining Plan approval.

Section 4.5.3 of the County's Zoning Regulations states: Open Use Mining District (OUM).

A. the OUM District provides for mining activities and associated uses.

B. this District is used to implement the comprehensive plan within areas designated as rural on the future land use map. It should not be applied outside the rural area or in areas of special environmental significance, including but not limited to, the watersheds of Cow Pen Slough, the Myakka River, and the Braden River.

These requirements effectively preclude phosphate mining in areas of the Myakka River watershed that lie within the boundary of Sarasota County. Using the screening step based on the Sarasota County ordinance described above and following confirmation of the locations designated as OUM it was determined that Alternatives K and L would be affected by this ordinance. As a result, these alternatives were eliminated from further consideration.

### 4.3 Combining Fragmented Alternatives

There are instances in this screening step, and in one or more of the steps that follow, where excluding the area affected by the particular criterion results in an alternative that is smaller than 8,100 acres and could be excluded from further alternatives analysis. However, to be conservative in retaining as broad a representation of alternatives as reasonable, where these smaller areas were adjacent to another alternative and could be combined to form a potential mineable area that exceeded 8,100 acres, the area of the two alternatives was combined into a new alternative. Where these could not be combined, they were excluded as an alternative even though they might be used in the future if they met the requirements for an extension, as described above, or provided infill areas for current or future permitted mines.

Because of the substantial portion of the overlay that affected Alternatives Y, Z, AA, BB, CC, DD, and EE, no such recombination was considered reasonable. However, minor modifications in the boundary of Alternatives R and S were made to form a new modified alternative, S-2, and retain this area as a potential alternative for further evaluation. There was found to be no reasonable basis for recombining K and L after screening for the Sarasota County ordinance because of the exclusion of most of the area by the county ordinance; therefore, these two alternatives were eliminated from further consideration. Figure 15 illustrates the areas in the CFPD that remain under consideration as offsite alternatives after the removal (or modification of boundaries) of 10 alternatives due to restrictions by ordinances.

Step 3 represents a reduction from 36 to 26 alternatives. The total area remaining under consideration as offsite alternatives after this step is 266,622 acres.

## 5.0 Alternatives Step 4: Identify Tier 2 Criteria to be Used to Evaluate Environmental Conditions on the Remaining Alternatives

It was determined that the most reasonable means for comparing the potential alternatives was through GIS-based data readily available for the CFPD from federal, state, or local agencies. This approach allowed comparison of features among the alternatives and provided a basis for sequentially screening these alternatives to identify reasonable alternatives for more detailed analysis.

Considering comments received during scoping that certain areas (such as wetlands, streams, floodplains, and residential property conflicts) should be avoided if possible, multiple GIS data layers were evaluated for their potential to serve as screening criteria to evaluate conditions on the remaining 26 alternatives. Tier 2 criteria selected for this step included the GIS layers indicated in Table 4. The descriptions and graphical representations of the data layers are provided in the following sections.

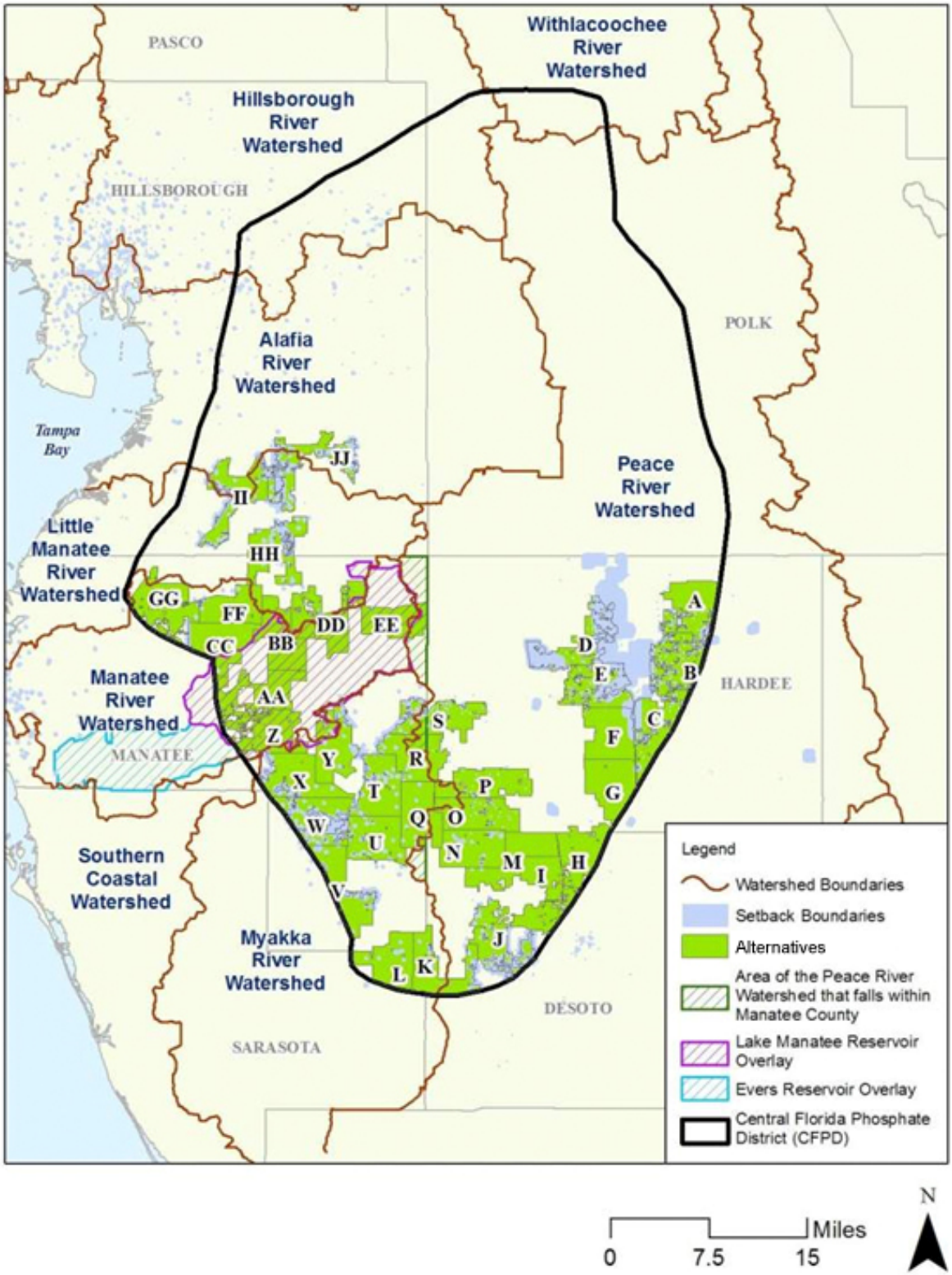



**Figure 14. Overlay - Manatee County Phosphate Restrictions**

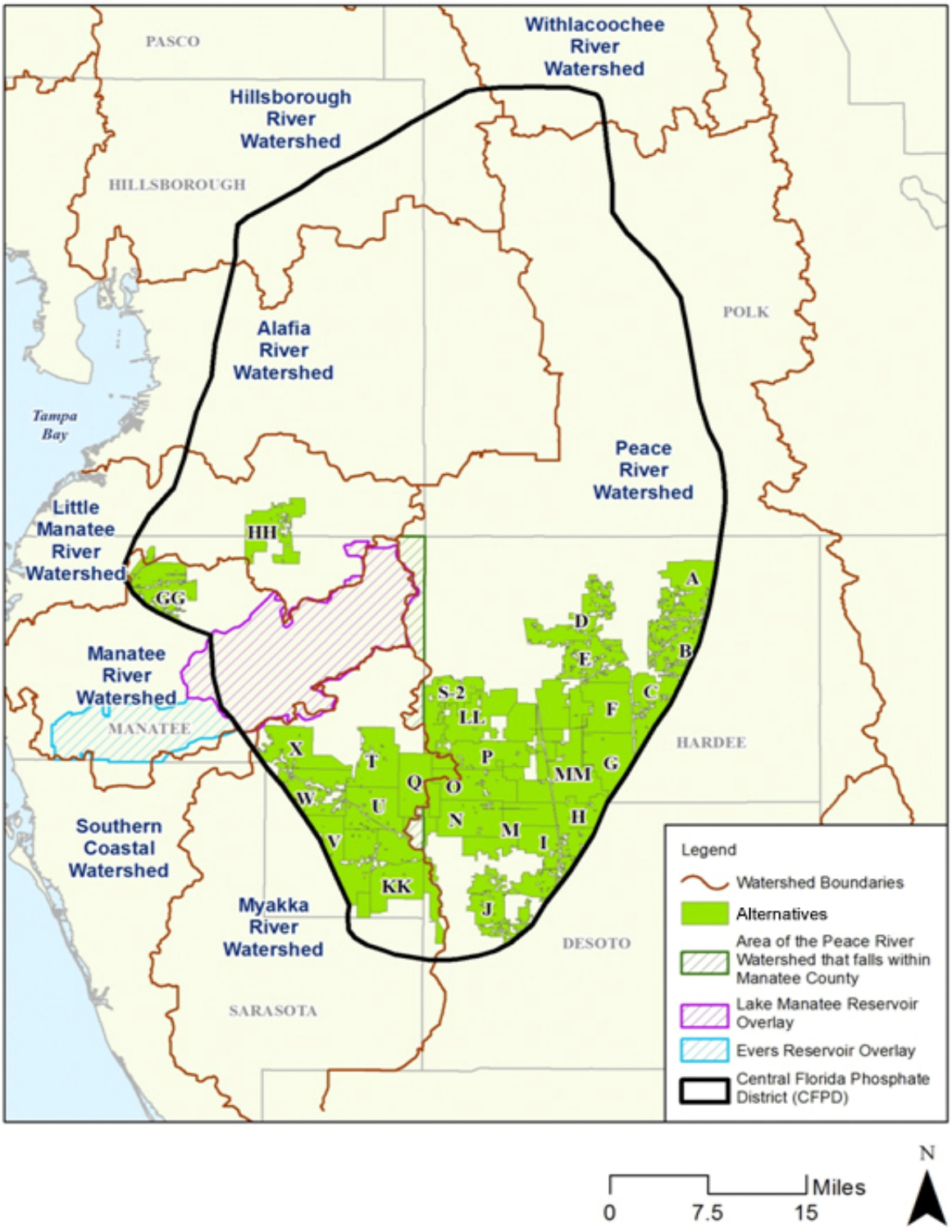



**Figure 15. Offsite Alternatives Remaining after Screening for Ordinance Restrictions**

| Table 4. Tier 2 Screening Criteria GIS Layers | |
|---|---|
| **GIS Data Layer** | **GIS Data Layer Source** |
| Proposed Integrated Habitat Network (IHN) | FDEP |
| Level 1 FLUCCS Wetlands | SWFWMD, 2010 |
| Hydric Soils | Natural Resources Conservation Service (NRCS) |
| Florida Forever - Proposed for Acquisition | FNAI |
| FEMA 100-Year Floodplain | Florida Geographic Data Library (FGDL) |
| NHD Water Bodies | U.S. Geological Survey (USGS) |
| Residential Setbacks | See Table 10 for Dimensions Applied |

## 6.0 Step 5: Develop and Apply Decision Analysis Process to Prioritize Tier 2 Criteria

The purpose of this step was to develop and apply a decision analysis process to prioritize Tier 2 criteria (based on the GIS data layers) that could be used to evaluate conditions on the remaining 26 alternatives for evaluation of potential alternatives to be carried forward for more detailed analysis. Decision analysis is an approach to support decision making that may include multiple variables that affect preferences among one or more alternatives. The USACE, along with the AEIS cooperating agencies (the USEPA and the FDEP), evaluated the use of the environmental GIS layers as Tier 2 criteria for their applicability, value, and limitations in comparing the environmental conditions in the remaining alternatives. The result was the combination of certain data layers because they had sufficient overlap that they effectively represented different metrics for similar resources (see Table 4). Four data layers were combined into two data overlays:

- The FLUCCS Wetlands was combined with Hydric Soils.
- The FEMA 100-year Floodplain was combined with the NHD Water Bodies

The USACE and cooperating agencies then determined a relative weight for each criterion, ranking them from the most to least important. All values were then averaged to prioritize the sequence for applying Tier 2 environmental screening criteria in the alternatives evaluation. This process avoided double-counting data layers that overlapped with other layers, with the highest priority criterion screened first, followed by the second highest, and so forth. In order of decreasing importance, as determined by the agencies, the priority screening sequence was as follows:

- Wetlands and Hydric Soils
- Florida Forever Proposed Lands
- FEMA 100-Year Floodplain and NHD Water Bodies
- Integrated Habitat Network

After the environmental criteria screening was completed, the USACE added a screening component to include the requirements for mining setbacks from residential areas.

# 7.0 Step 6: Apply Tier 2 Screening Criteria; Complete Alternative Screening to Evaluate and Compare Environmental Conditions for Remaining Alternatives

This step, similar to the Tier 1 screening, involved sequential application of the GIS overlays representing each of the Tier 2 criteria to evaluate environmental resources on the remaining 26 alternatives. Where the area affected by the particular criterion was a fraction of the overall alternative, an evaluation was performed to determine whether to eliminate the entire alternative, to retain a portion of the alternative, or to combine adjacent alternatives as a re-labeled alternative. This screening process is summarized in Figure 16.

## 7.1 Wetlands/Hydric Soils Screening

The screening of the remaining alternatives began with a review of wetland areas as defined by the 2010 Level 1 through 6 FLUCCS codes and the NRCS layers for hydric soils. Wetlands according to this data layer are those areas where the surface of the land is at or near the water table for most days of the year, and which are able to support various species of aquatic and hydrophytic vegetation. The FLUCCS data layer is not specific to wetlands under federal jurisdiction and may include some wetlands that are outside USACE jurisdiction. For more accurate classification, the National Wetlands Inventory (NWI) and low altitude aerial photography were used. Included in the Wetlands sub-class are Coniferous, Deciduous, and Mixed Forests, along with non-forested (emergent vegetation) and non-vegetated wetlands (tidal flats and shorelines). The NRCS mapped information depicting the distribution of hydric soil categories; these maps identify soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils were reviewed because they typically correspond to wetlands and similar habitats.

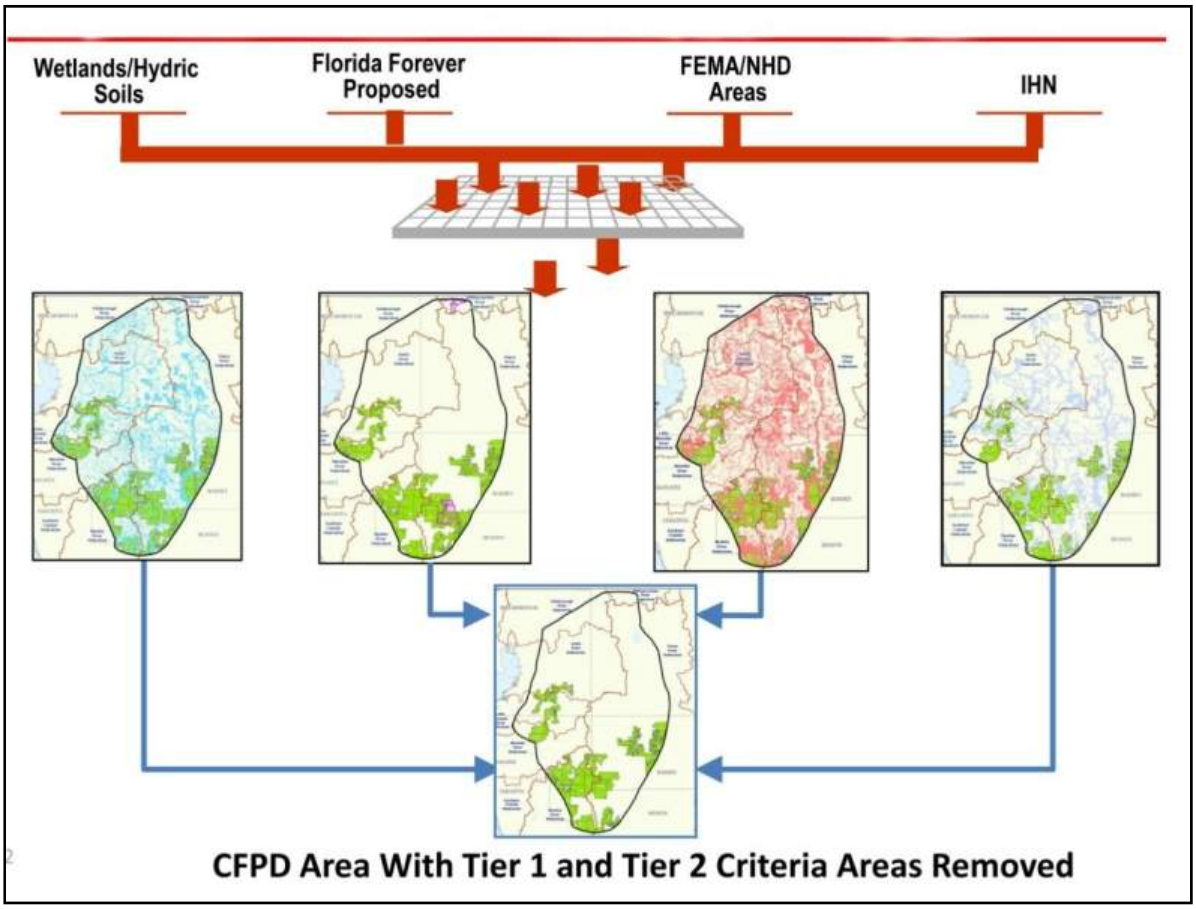



**Figure 16. Flow Diagram of the Tier 2 Screening Approach**

Figure 17 illustrates the locations of wetlands/hydric soils in the CFPD and Table 5 provides a ranking of alternatives based on acres of wetland/hydric soils in each alternative. Figure 18 provides the percentage of wetland/hydric soils in sequence from the alternative with the greatest percentage to the alternative with the least percentage. The percentages of onsite wetlands/hydric soils in the alternatives range from approximately 20 to 54 percent, with no clear "break point" or criterion evident that could be used to identify high quality resources or portions of alternatives that warranted exclusion from consideration as a reasonable mining alternative.

To obtain better resolution for the wetland/hydric soil screening, a further analysis using 2010 Level 1 through 6 FLUCCS code data was applied to forested wetlands because forested wetlands have higher mitigation time lag and risk values and may be more difficult to restore than emergent wetlands. The alternatives were compared again based on the prevalence of forested wetlands in each alternative (see Table 6 and Figure 19).

Alternatives F and G have substantially greater percentages of forested wetlands than the other alternatives. Reducing the size of these alternatives to avoid the forested wetlands would reduce the alternative sizes by 3,029 and 3,205 acres, respectively, resulting in sites that are too small for stand-alone mines. Additionally, these alternatives are not near the Wingate East or South Pasture Extension beneficiation plants. These alternatives were also ranked first and third for total percentage of wetlands overall and include forested and other wetlands in the Peace River mainstem corridor. Mining these alternatives would be more likely to impact unique habitats or higher quality natural areas.

On this basis, Alternatives F and G (totaling 17,249 acres) were eliminated from further analysis and are not considered reasonable alternatives. Figure 20 illustrates the CFPD and remaining alternatives with the removal of Alternatives F and G.

## 8.0 Florida Forever Proposed Lands

The next level of screening alternatives was for those areas designated by the state as proposed for future acquisition under the Florida Forever program (see Figure 21). These lands have been proposed for acquisition because of outstanding natural resources, opportunity for natural resource-based recreation, or historical and archaeological resources. However, these areas may not be currently managed for their resource value. These resources reflect a broad range of possible areas for avoidance of impacts from mining. Table 7 lists the acreage and percentages for each alternative affected by this criterion, and Figure 22 illustrates the ranking of these alternatives from highest to lowest percentage of acres that are represented by the Florida Forever layer.

As the figures show, seven of the alternatives include proposed Florida Forever lands. For Alternatives M, MM, I, N, and O, the percentages of the alternative areas that are proposed Florida Forever lands ranged from 8 to 48 percent. After removal of the proposed Florida Forever acres, Alternative MM was found to be too small (less than 8,100 acres) and too fragmented to justify its use as a stand-alone mine site. Although its proximity to Alternative LL suggested that it might have value as infill acreage or extension if LL were considered for mining, Alternative MM was eliminated from further consideration as an alternative.

When the proposed Florida Forever lands were removed from Alternatives I and M, neither one (at 6,026 and 2,700 acres, respectively) was large enough to be a stand-alone mine site, nor is either alternative near the Wingate East or South Pasture Extension beneficiation plants. This precluded their consideration individually as alternative locations for mining expansion. Additionally, there was no connectivity between the two alternatives so they could not be combined. The smaller size of the alternatives, lack of connection between the two, and (as noted previously) high forested wetland acreage in Alternative M (1,642 acres of 2,990 total wetland acres), provided a basis for eliminating Alternatives I and M from further consideration.

A similar review for Alternatives N and O identified an opportunity to remove the areas designated as proposed Florida Forever lands, combine the remaining portions of these two alternatives into a single continuous tract, and retain this new alternative, labeled N-2. Figure 23 shows the CFPD with Alternatives I and M eliminated and the new combined alternative labeled N-2. This new alternative provides a total of 15,447 acres retained for further evaluation. Elimination of Alternatives I and M and portions of N and O resulted in elimination of 21,305 acres from further evaluation.

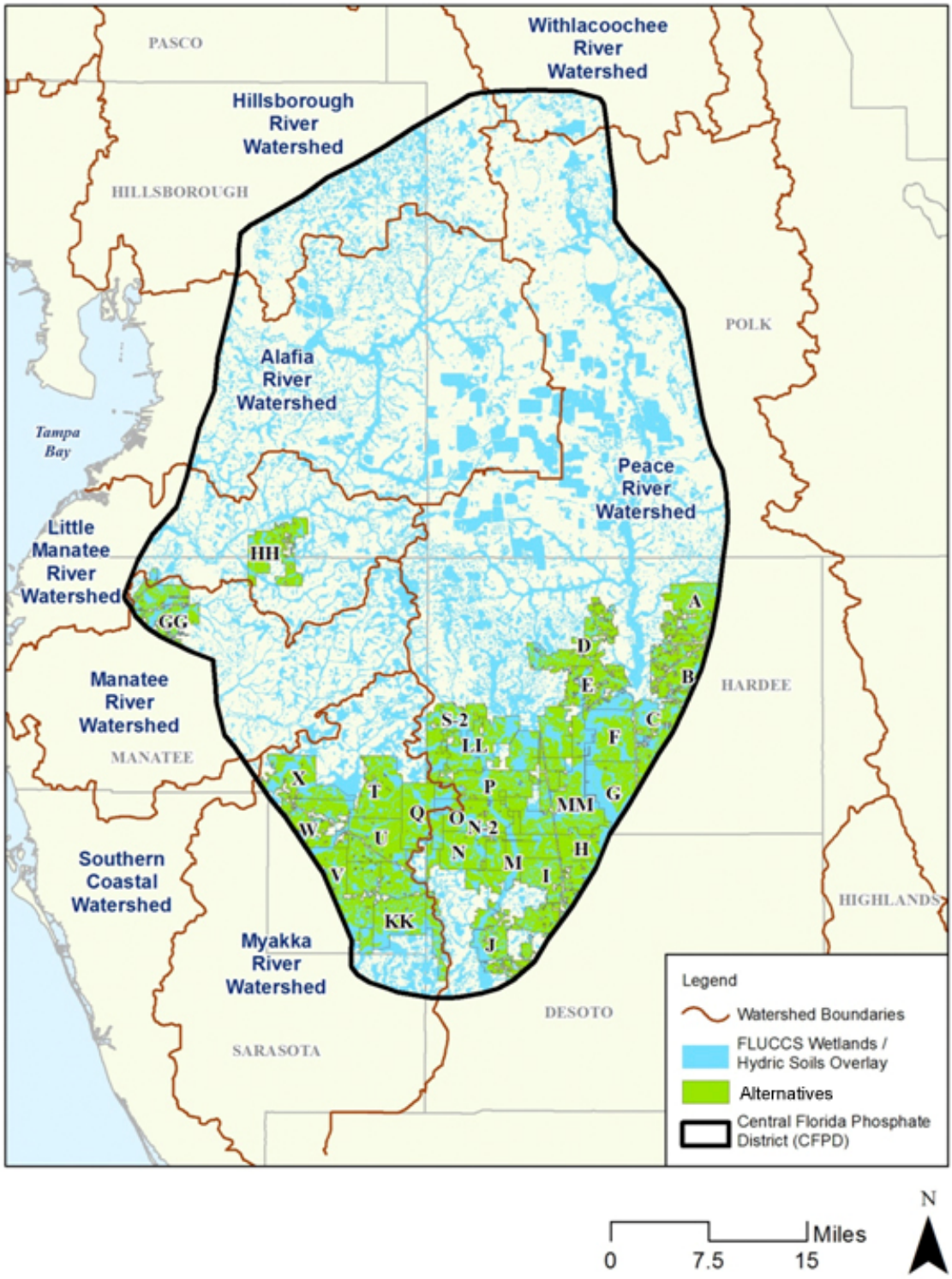



**Figure 17. Tier 2 Overlay – Wetlands/Hydric Soils**

## Table 5. Ranking of Alternatives Based on Wetlands/Hydric Soils Coverage

| Site ID | Total Acreage | Wetland/Hydric Soils Acreage | Percentage of Wetland/Hydric Soils |
|---|---|---|---|
| G | 8,965 | 4,837 | 54 |
| F | 8,984 | 4,140 | 46 |
| X | 8,766 | 3,685 | 42 |
| LL | 25,025 | 10,455 | 42 |
| C | 8,810 | 3,666 | 42 |
| GG | 9,700 | 3,967 | 41 |
| S-2 | 8,227 | 3,274 | 40 |
| KK | 24,134 | 9,235 | 38 |
| J | 8,827 | 3,307 | 37 |
| MM | 14,804 | 5,545 | 37 |
| O | 8,973 | 3,188 | 36 |
| E | 8,816 | 3,043 | 35 |
| V | 9,023 | 3,082 | 34 |
| P | 9,003 | 3,021 | 34 |
| M | 8,938 | 2,930 | 33 |
| W | 8,619 | 2,570 | 30 |
| H | 8,957 | 2,647 | 30 |
| Q | 8,998 | 2,658 | 30 |
| N | 8,915 | 2,474 | 28 |
| D | 8,918 | 2,410 | 27 |
| T | 9,016 | 2,381 | 26 |
| HH | 8,958 | 2,281 | 25 |
| U | 8,788 | 2,159 | 25 |
| A | 8,964 | 2,198 | 25 |
| I | 8,711 | 2,119 | 24 |
| B | 8,710 | 1,710 | 20 |

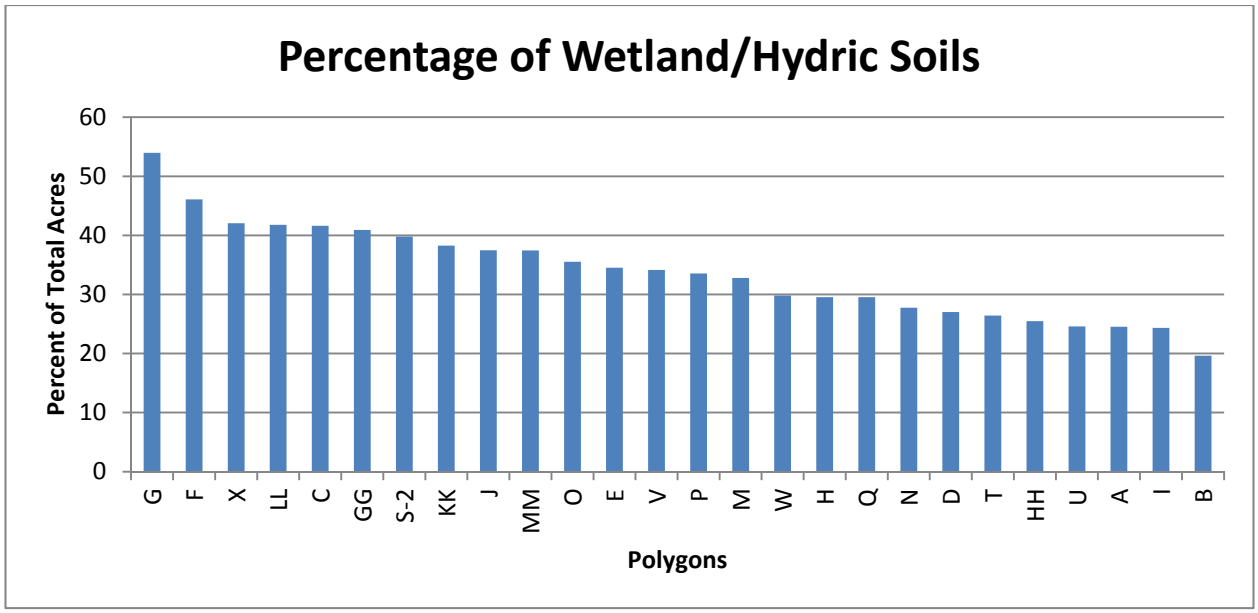



**Figure 18. Ranking of Alternatives Based on Wetlands/Hydric Soils Overlay**

**Table 6. Ranking of Alternatives Based on Overlay of Forested Wetlands**

| Site ID | Total Acreage | Forested Wetland Acreage | Percentage of Forested Wetlands |
|---|---|---|---|
| G | 8,965 | 3,205 | 36 |
| F | 8,984 | 3,030 | 34 |
| LL | 25,025 | 6,259 | 25 |
| S-2 | 8,227 | 1,832 | 22 |
| E | 8,816 | 1,911 | 22 |
| GG | 9,700 | 1,950 | 20 |
| MM | 14,804 | 2,916 | 20 |
| M | 8,938 | 1,642 | 18 |
| H | 8,957 | 1,566 | 17 |
| C | 8,810 | 1,513 | 17 |
| O | 8,973 | 1,398 | 16 |
| J | 8,827 | 1,365 | 15 |
| P | 9,003 | 1,195 | 13 |
| W | 8,619 | 876 | 10 |
| HH | 8,958 | 847 | 9 |
| V | 9,023 | 849 | 9 |
| KK | 24,134 | 2,257 | 9 |
| X | 8,766 | 817 | 9 |

| Table 6. Ranking of Alternatives Based on Overlay of Forested Wetlands | | | |
|---|---|---|---|
| **Site ID** | **Total Acreage** | **Forested Wetland Acreage** | **Percentage of Forested Wetlands** |
| U | 8,788 | 809 | 9 |
| B | 8,710 | 709 | 8 |
| N | 8,915 | 638 | 7 |
| A | 8,964 | 599 | 7 |
| D | 8,918 | 579 | 6 |
| T | 9,016 | 586 | 6 |
| Q | 8,998 | 466 | 5 |
| I | 8,711 | 179 | 2 |

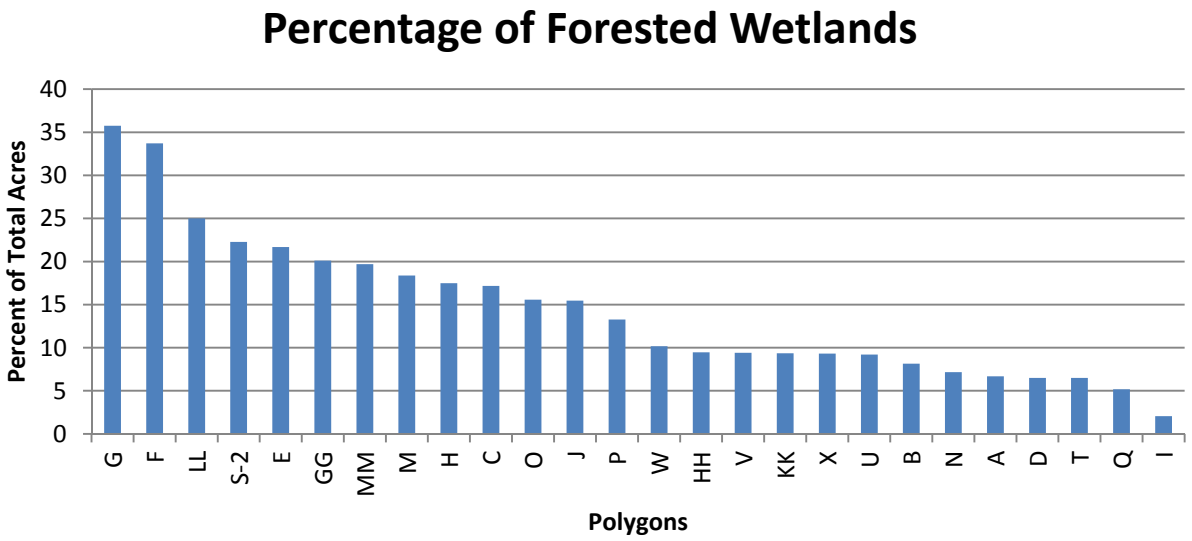



**Figure 19. Ranking of Alternatives Based on Forested Wetlands Overlay**

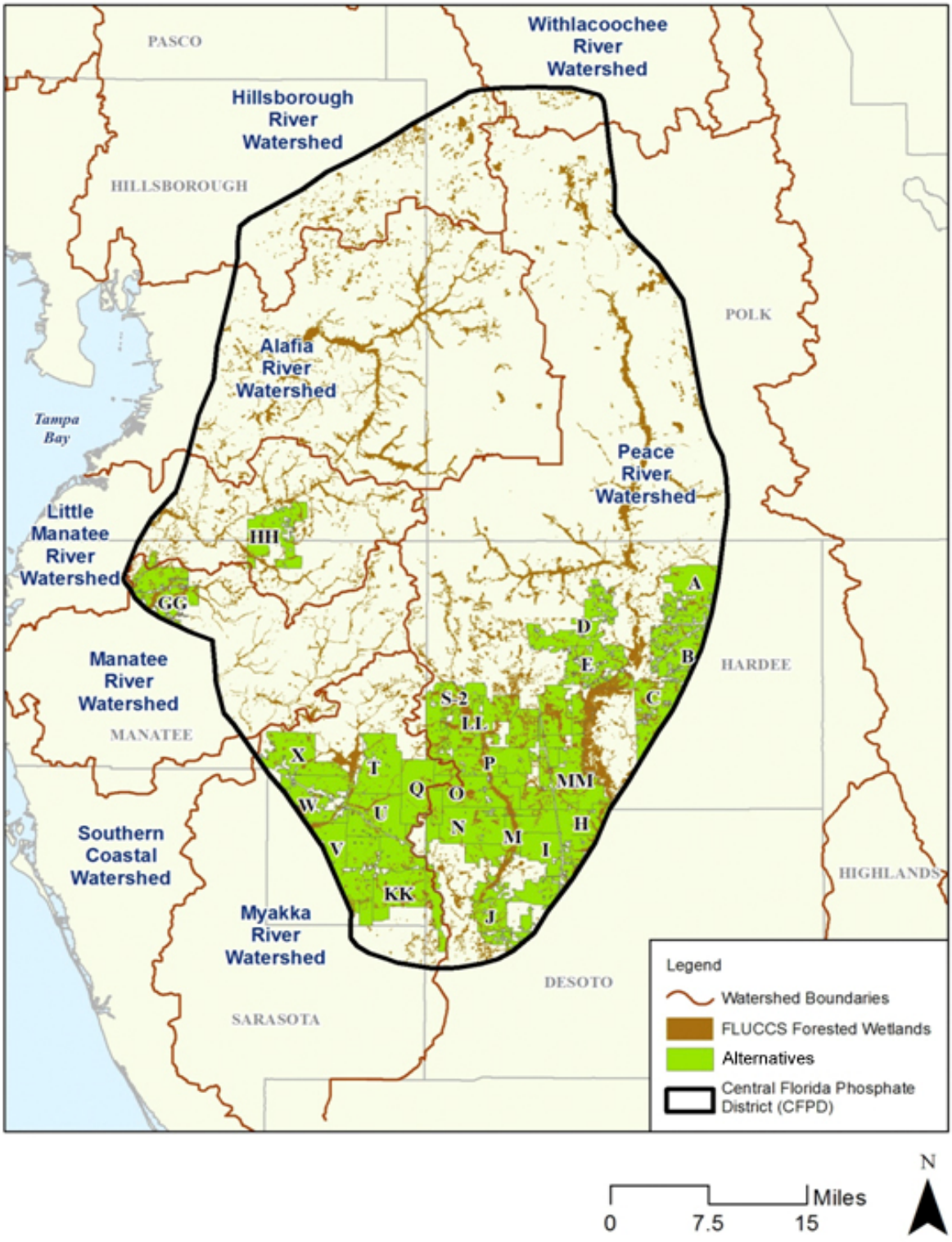



**Figure 20. CFPD and the Offsite Alternatives Remaining after Wetlands/Hydric Soils and Forested Wetlands Screening**

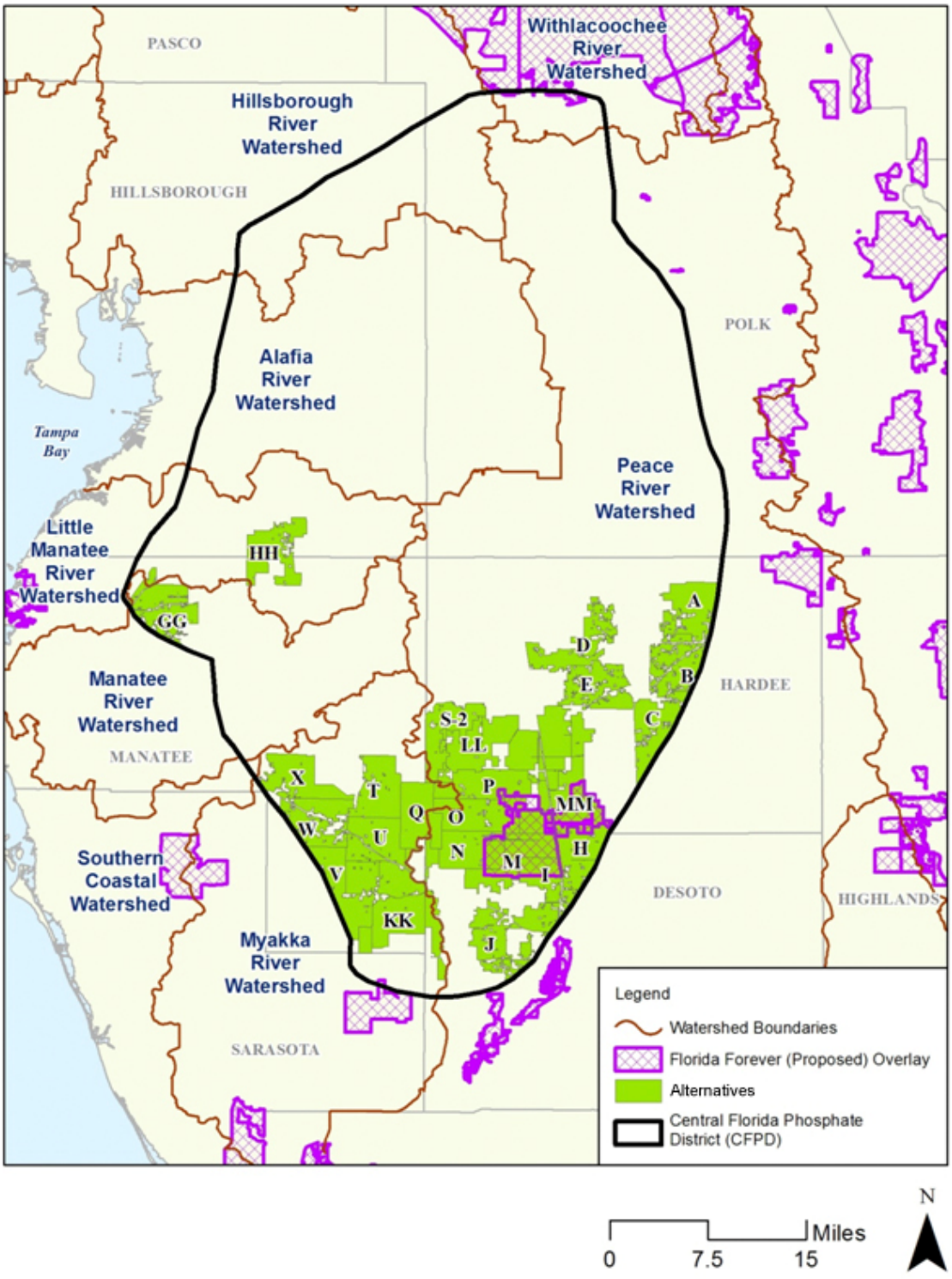



**Figure 21. Tier 2 Overlay – Florida Forever Proposed Lands**

| Table 7. Ranking of Alternatives Based on Overlay of Florida Forever Proposed Acreage | | | |
|---|---|---|---|
| **Site ID** | **Total Acreage** | **Florida Forever (Proposed) Acreage** | **Percentage of Florida Forever (Proposed)** |
| M | 8,938 | 4,281 | 48 |
| MM | 14,804 | 5,747 | 39 |
| I | 8,711 | 1,977 | 23 |
| N | 8,915 | 1,702 | 19 |
| O | 8,973 | 744 | 8 |
| H | 8,957 | 111 | 1 |
| P | 9,003 | 80 | 1 |
| V | 9,023 | 0 | 0 |
| HH | 8,958 | 0 | 0 |
| A | 8,964 | 0 | 0 |
| GG | 9,700 | 0 | 0 |
| U | 8,788 | 0 | 0 |
| W | 8,619 | 0 | 0 |
| E | 8,816 | 0 | 0 |
| KK | 24,134 | 0 | 0 |
| D | 8,918 | 0 | 0 |
| C | 8,810 | 0 | 0 |
| X | 8,766 | 0 | 0 |
| J | 8,827 | 0 | 0 |
| LL | 25,025 | 0 | 0 |
| T | 9,016 | 0 | 0 |
| S-2 | 8,227 | 0 | 0 |
| B | 8,710 | 0 | 0 |
| Q | 8,998 | 0 | 0 |

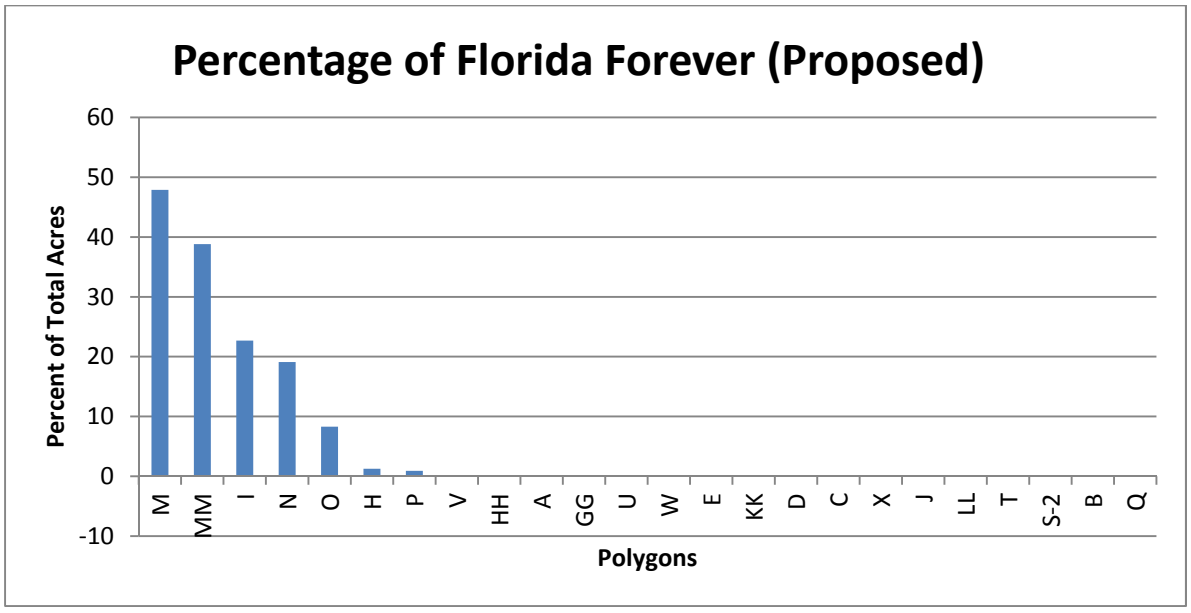



**Figure 22. Ranking of Alternatives Based on Percent of Proposed Florida Forever Lands**

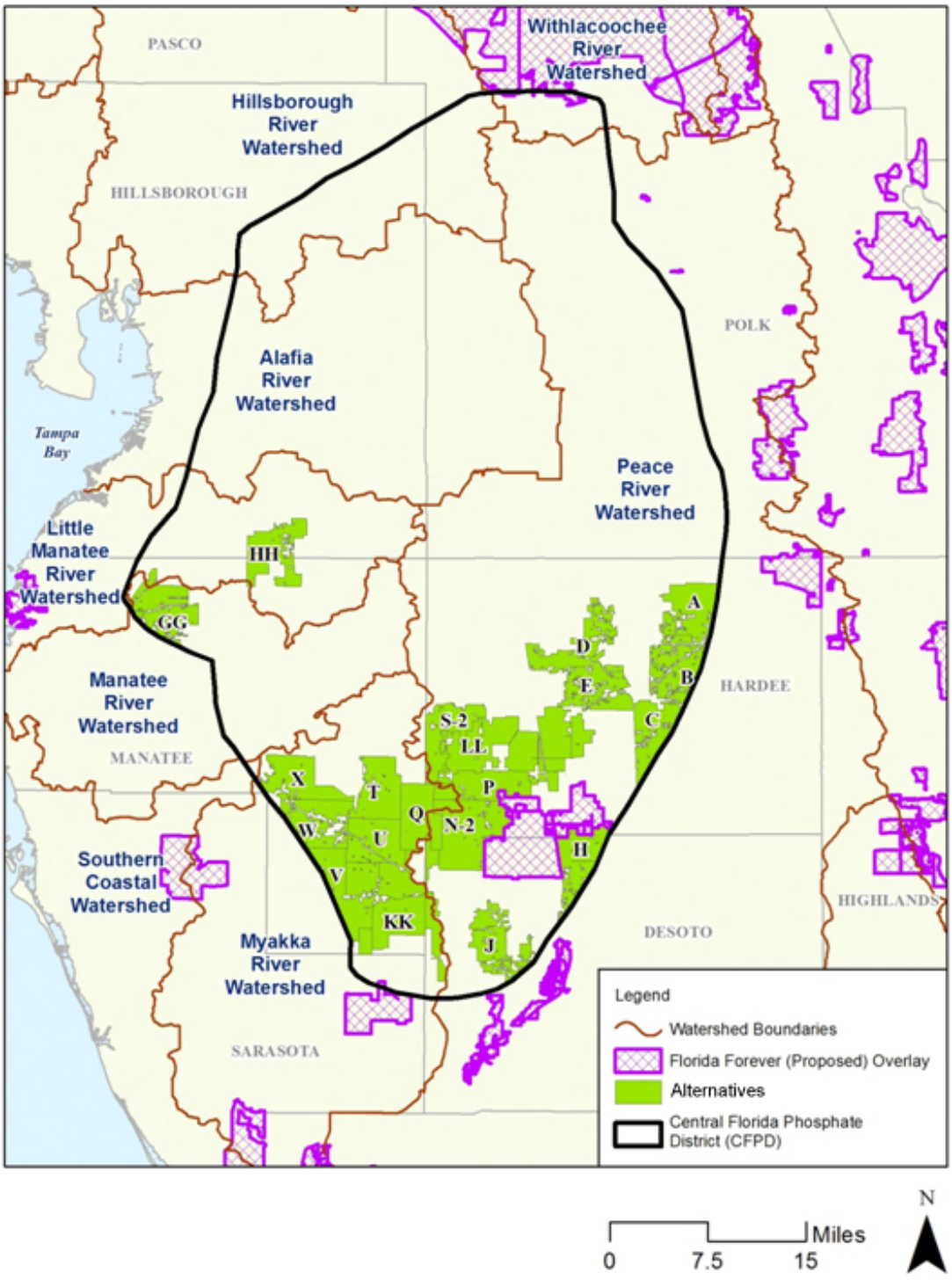



**Figure 23. CFPD and the Offsite Alternatives Remaining after Florida Forever Acquisition Lands Screening**

## 9.0 FEMA 100-year Floodplain and NHD Water

The next level of screening included the analysis of two datasets – the FEMA 1996 Digital Flood Insurance Rate Maps (DFIRM) and the USGS NHD – to identify the 100-year floodplain and open water areas, respectively (see Figure 24). The FEMA DFIRM data provide a general representation of the locations of Special Flood Hazard Areas and zones of possible flood inundation risks, including the 100-year floodplain. The USGS NHD contains features such as lakes, ponds, streams, rivers, canals, dams, and stream gages. For this analysis, the features in the NHD identified as canals, rivers, lakes, ponds, and streams were classified as open water.

Table 8 lists the acreage and percentages for each alternative affected by this criterion. Figure 25 ranks the alternatives from greatest to least percentage of FEMA 100-year floodplain and NHD water bodies. As the table and figure indicate, the percentages of FEMA 100-year floodplain and open water as defined by the NHD in the alternatives ranged from approximately 1 to 18 percent, with no clear "break point" or criterion evident that could be used to identify high quality resources or portions of alternatives that warranted exclusion from consideration as a reasonable mining alternative. Therefore, none of the alternatives were eliminated through screening for the FEMA/NHD criteria.

**Table 8. Ranking of Alternatives Based on FEMA Floodplain and NHD Waters Acreages**

| Site ID | Total Acreage | FEMA/NHD Acreage | Percentage of FEMA /NHD |
|---|---|---|---|
| N-2 | 14,649 | 2,621 | 18 |
| GG | 9,700 | 1,591 | 16 |
| A | 8,964 | 1,162 | 13 |
| J | 8,827 | 1,021 | 12 |
| V | 9,023 | 817 | 9 |
| S-2 | 8,227 | 592 | 7 |
| U | 8,788 | 599 | 7 |
| KK | 24,134 | 1,639 | 7 |
| LL | 25,025 | 1,635 | 7 |
| T | 9,016 | 582 | 6 |
| P | 9,003 | 455 | 5 |
| X | 8,766 | 411 | 5 |
| B | 8,710 | 317 | 4 |
| W | 8,619 | 253 | 3 |
| D | 8,918 | 247 | 3 |
| Q | 8,998 | 237 | 3 |
| C | 8,810 | 191 | 2 |
| H | 8,957 | 158 | 2 |
| E | 8,816 | 139 | 2 |
| HH | 8,958 | 104 | 1 |

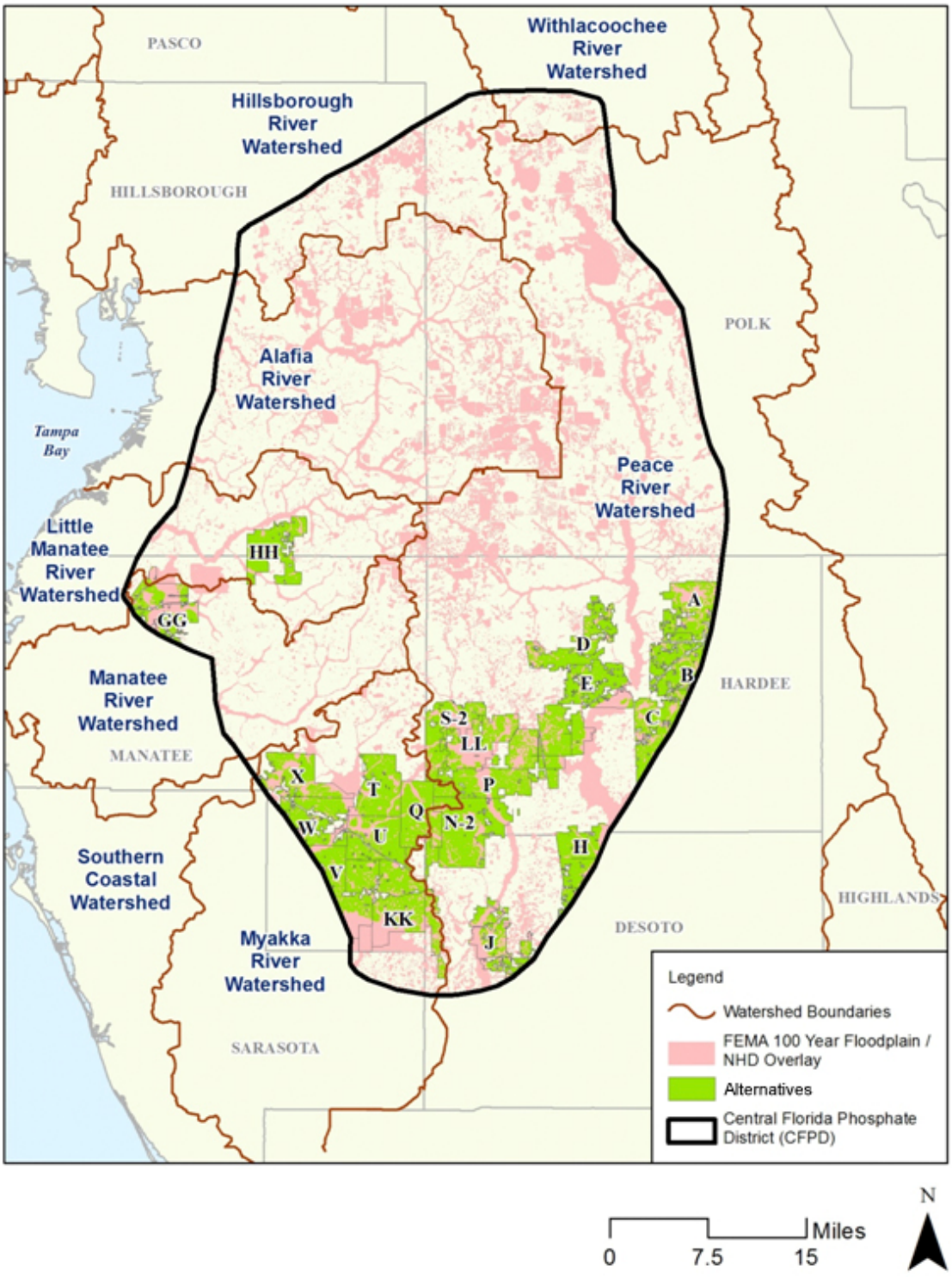



**Figure 24. Tier 2 Overlay - FEMA 100-Year Floodplain and NHD Waters**

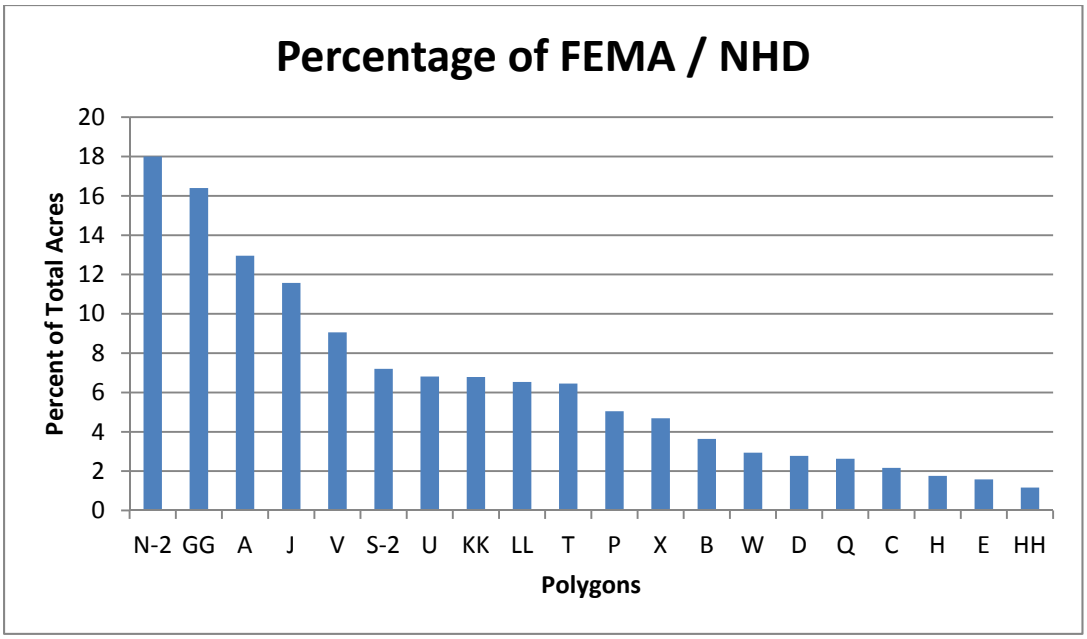



**Figure 25. Ranking of Alternatives Based on Percent of FEMA/NHD Coverages**

## 10.0 Integrated Habitat Network

The final level of screening that was conducted was for the IHN Corridors data layer (see Figure 26), designed by FDEP to be a guide for reclaiming or preserving mined phosphate lands throughout the southern CFPD. Although the coverage consists of largely undisturbed lands in the riverine floodplains (core lands) and adjacent reclaimed "buffer" lands, much of the IHN that has not been placed in conservation easements has been converted to agriculture, pasture, or otherwise modified land uses that afford lower habitat value than undisturbed habitat. The IHN Corridors, including the core lands and buffer lands (which complement and enhance the habitat value of the core lands), benefit water quality and quantity in the surrounding area and serve as upland habitat connections between the mining region's rivers and significant environmental features outside the mining region. Conservation of these areas is considered by the state as an important part of the goal to protect and increase habitat corridors in the region and the state, and therefore the presence of a high percentage of IHN coverage could indicate unique habitats or high quality natural areas. Adoption of the IHN concept is strictly voluntary, but it has gained wide acceptance and virtually unanimous implementation in the Central Florida phosphate mining industry. Table 9 lists the acreage and percentages for each alternative affected by this criterion. Figure 27 ranks the alternatives from greatest to least percentage of IHN areas.

The percentage of IHN coverage on the alternatives ranges from 0 to 23 percent, with Alternative H containing a substantially higher percent of acreage affected by the IHN than all other alternatives. Therefore, Alternative H was eliminated from further consideration as a stand-alone mine but could have value in the future for nearby mines for infill parcels. Figure 28 shows the CFPD with Alternative H eliminated, resulting in the removal of 18,141 acres from further consideration.

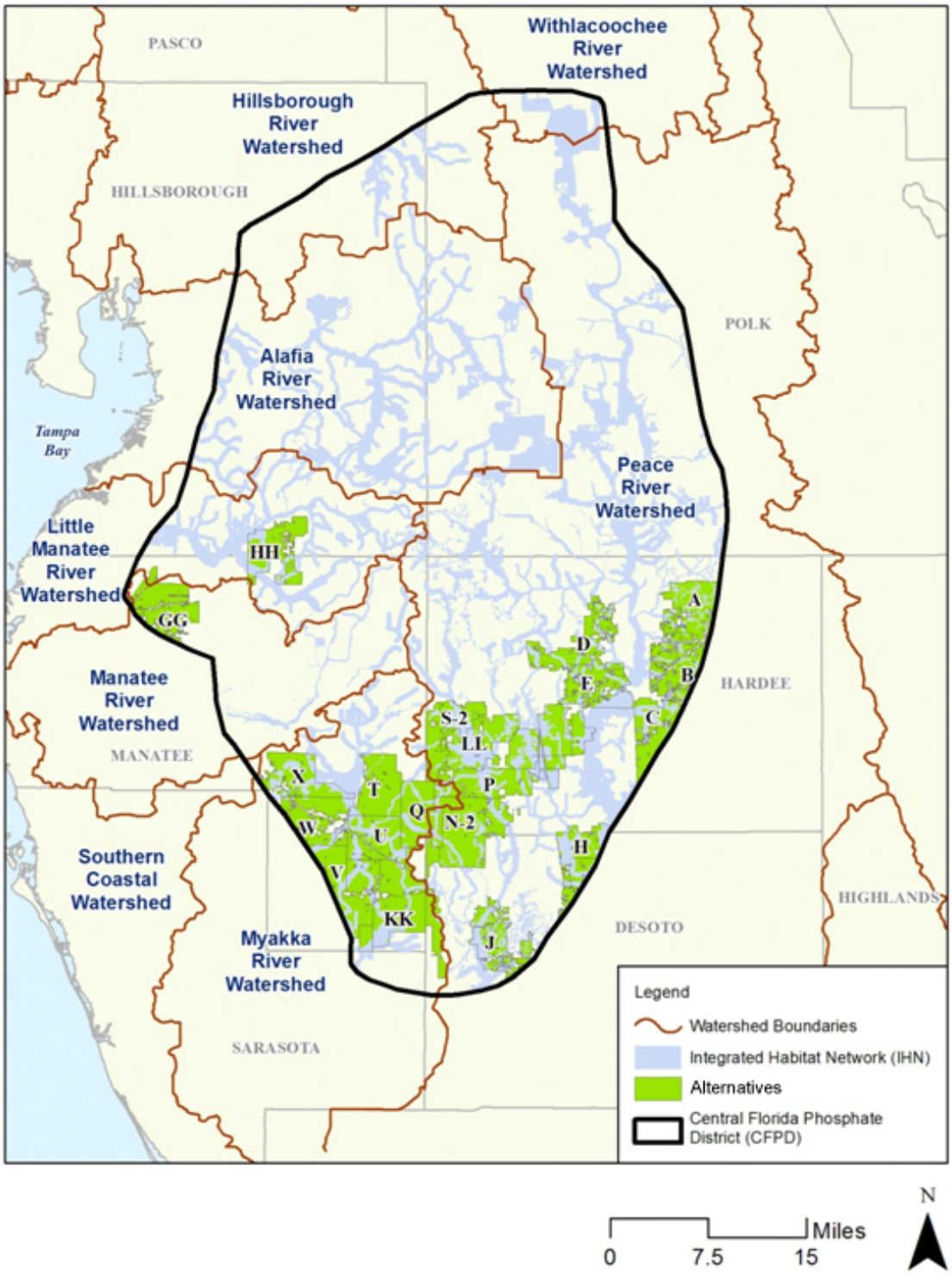



**Figure 26. Tier 2 Overlay - Integrated Habitat Network**

| Table 9. Ranking of Alternatives Based on Overlay of Integrated Habitat Network | | | |
|---|---|---|---|
| **Site ID** | **Total Acreage** | **IHN Acreage** | **Percentage of IHN** |
| H | 8,957 | 2,039 | 23 |
| HH | 8,958 | 1,169 | 13 |
| U | 8,788 | 1,070 | 12 |
| D | 8,918 | 1,062 | 12 |
| LL | 25,025 | 2,956 | 12 |
| E | 8,816 | 824 | 9 |
| P | 9,003 | 829 | 9 |
| Q | 8,998 | 702 | 8 |
| KK | 24,134 | 1,533 | 6 |
| V | 9,023 | 546 | 6 |
| N-2 | 12,028 | 675 | 6 |
| C | 8,810 | 491 | 6 |
| B | 8,710 | 430 | 5 |
| X | 8,766 | 281 | 3 |
| A | 8,964 | 215 | 2 |
| J | 8,827 | 195 | 2 |
| S-2 | 8,227 | 104 | 1 |
| T | 9,016 | 74 | 1 |
| W | 8,619 | 0 | 0 |
| GG | 9,700 | 0 | 0 |

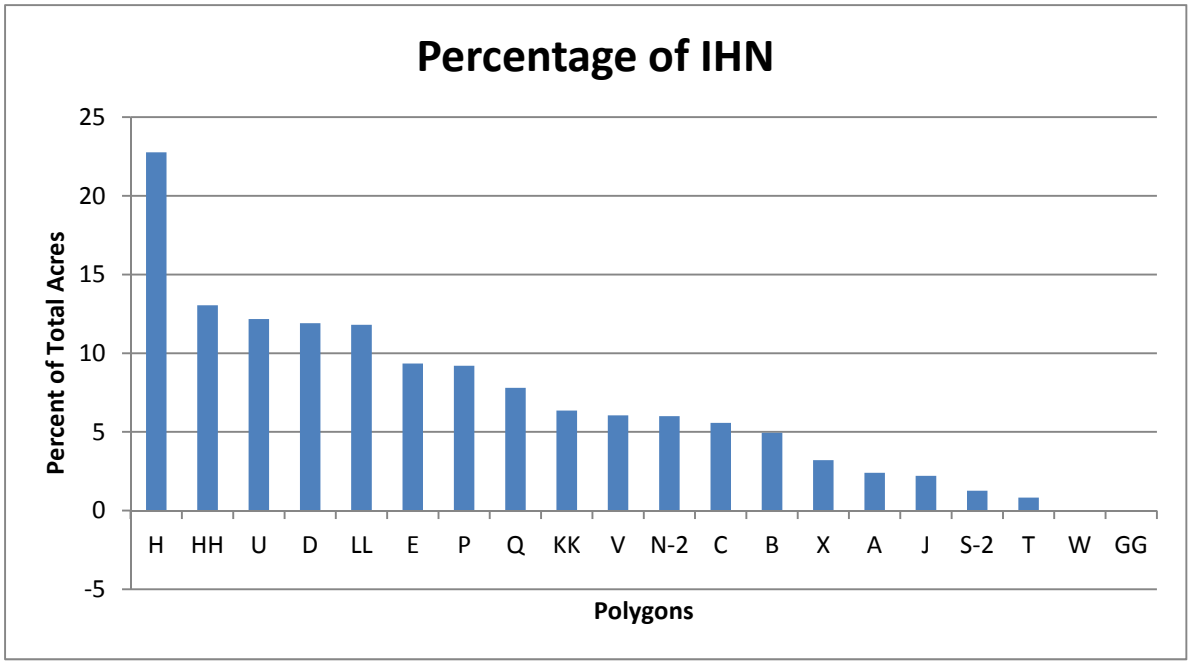



**Figure 27. Ranking of Alternatives Based on Integrated Habitat Network**

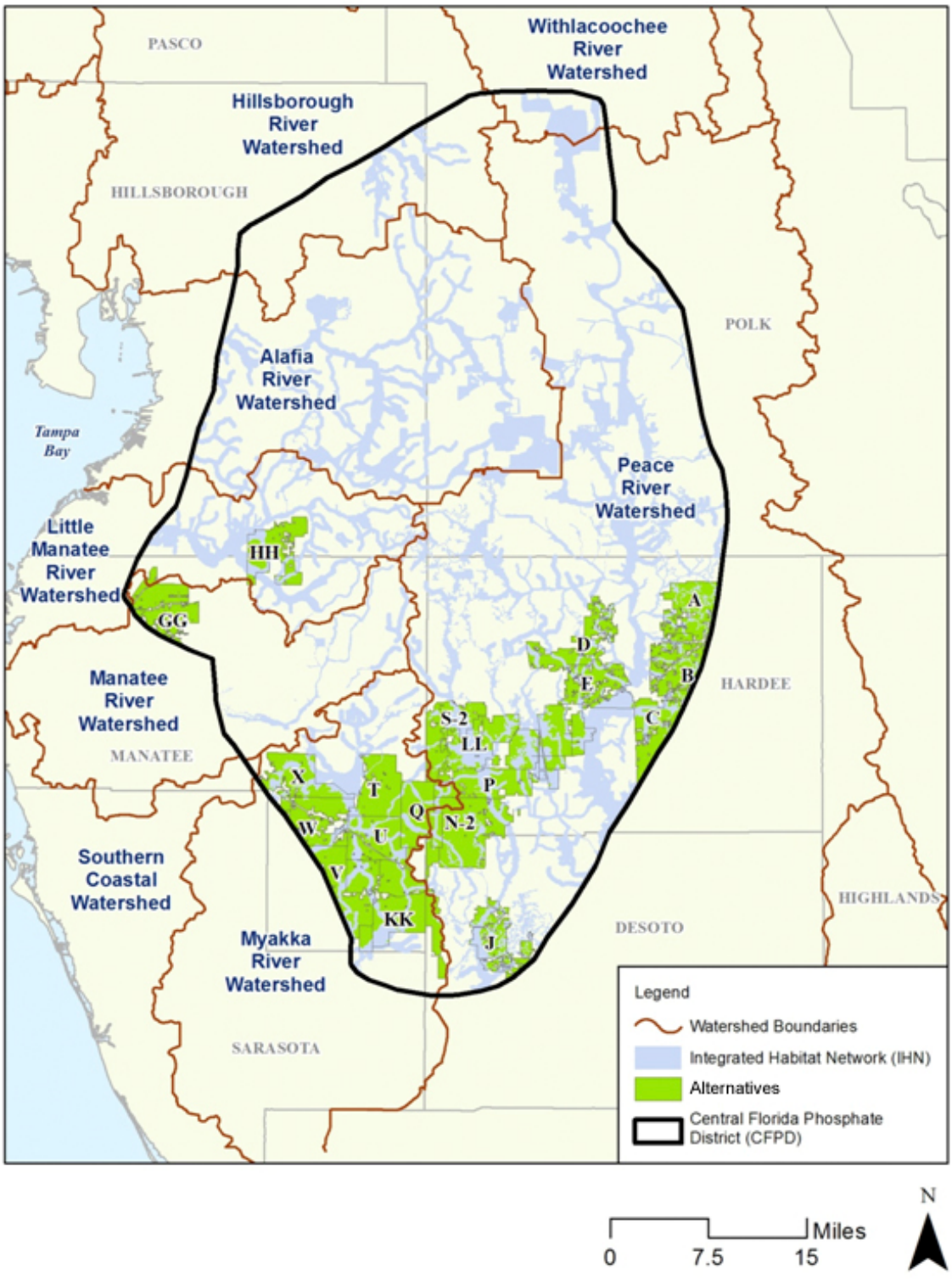



**Figure 28. CFPD and the Offsite Alternatives Remaining after IHN Screening**

## 11.0 Step 7: Review for Residential Setbacks

The Tier 2 environmental criteria screening process eliminated a total of six alternatives (F, G, I, M, II, JJ, and MM) and portions of one alternative that was redesignated from former Alternatives N and O into Alternative N-2, representing a total removal of 57,477 acres from further consideration.

Following Tier 2 environmental screening, an additional review was completed to assess the influence of residential and other setbacks, as defined by the applicable county ordinances or regulations, on identifying reasonable alternatives. The residential setbacks in the counties where there were remaining alternatives after Tier 1 and Tier 2 screening are shown in Figure 29. Alternatives affected by residential setbacks would reduce the mineable area. The USACE has determined that if mineable area is reduced to less than 8,100 acres, it would be too small for a stand-alone mine, although it could be an extension if within 10 miles of a beneficiation plant and would provide area needed for required mining infrastructure. The second effect is that the areas removed may produce pockets of inaccessible land scattered within the alternative, thereby reducing the feasibility of developing the infrastructure or corridors required for mining. The details of the regulations affecting these setbacks were reviewed in this analysis and are summarized in Table 10.

**Table 10. Setback Criteria for Phosphate Mine Operating Permits**

| Regulatory Setback Requirements | Setbacks Used In Alternatives Review |
|---|---|
| **DeSoto County Regulation: Land development regulations, Article 1, Section 14602 C** | |
| 500 ft from the property line of a church, public park boundary, or cemetery. | 500 ft from the property line of a church, public park boundary, or cemetery if data available. |
| 1,000 ft from the property line of any school. | 1,000 ft from the property line of any school. |
| 1,000 ft from the closest portion of a permitted dwelling unit existing at the time of the Phosphate Mining Master Plan approval, or two hundred (200) ft from the property line of that portion of the adjacent property whose property tax folio number's legal description contains the dwelling unit, whichever is the greater setback distance. | 1,000 ft from the closest portion of a dwelling unit if data available or 200 ft from property line. |
| 500 ft from the boundary or survey line of an officially designated historical site which is not located within the mine boundary. | 500 ft from the boundary or survey line of designated historic site if data available. |
| **Hardee County Municipal Code, Mining Regulations Section 3.14.02 Part A (01).** | |
| 500 ft from a public park boundary, cemetery, historical site, or permanent buildings (including Mobile Homes or Manufactured Housing) used for residential, commercial, church or public purposes | 500 ft from a public park boundary, cemetery, historical site, or permanent buildings (including Mobile Homes or Manufactured Housing) used for residential, commercial, church or public purposes, where data are available. |
| **Hillsborough County: Article VIII Operating Standards; Section 8.02.08** | |
| 500 ft from the property line of a public park boundary or cemetery. | 500 ft from the property line of a public park boundary or cemetery where data are available. |
| 500 ft from the boundary or survey line of an officially designated historical site which is not located within the mine boundary. | 500 ft from the boundary or survey line of an officially designated historical site which is not located within the mine boundary, where data are available |
| 1,000 ft from the closest portion of a dwelling unit, or 200 ft from the property line of that portion of the adjacent property whose property tax folio number's legal description contains the dwelling unit, whichever provides the greater setback distance. | 1,000 ft from the closest portion of a dwelling unit if data available or 200 ft from property line. |
| 500 ft from the property line of a church or school. | 500 ft from the property line of a church or school. |

| Table 10. Setback Criteria for Phosphate Mine Operating Permits | |
|---|---|
| **Regulatory Setback Requirements** | **Setbacks Used In Alternatives Review** |
| 200 ft from any existing public right-of-way, or public easement for drainage, utility or public road purposes. | Data not available |
| **Manatee County: County Ordinance 81-22** | |
| 1,000 ft from any church, school, or habitable structure existing at the time of application for Master mining Plan approval. | 1,000 ft from any church, school, or habitable structure existing at the time of application for Master mining Plan approval. |
| 500 ft of any uncontrolled area of applicant's property line | Data not available |
| 200 ft of any uncontrolled right-of-way | Data not available |
| 1,000 ft of any wetlands or groves on adjoining property not owned by the applicant | 1,000 ft of any wetlands or groves on adjoining property not owned by the applicant |

The results of the removal of acreages that would be restricted from mining as a result of the county urban and residential setbacks are summarized in Table 11. The distribution from greatest to lowest percentage of total acres lost in these alternatives as a result of the setbacks is illustrated in Figure 30. As these data indicate, many of the alternatives are smaller than the 8,100 acres considered the minimum size reasonable for further consideration as an alternative. Alternatives less than 8,100 acres include A, B, C, D, E, J, T, U, V, W, X, HH, and S-2. However, as in previous screening steps, it is reasonable to combine some of these smaller alternatives to provide reasonable alternatives at this stage in the screening. These include combining Alternatives A and B to form Alternative A-2, combining Alternatives Q and T to form Alternative Q-2, combining Alternatives U and V to form Alternative U-2, and combining Alternatives W and X to form Alternative W-2. Thus, the alternatives removed based upon urban and residential setbacks would include Alternatives C, D, E, J, HH, and S-2; these alternatives are not included for further evaluation in the AEIS.

Alternative GG has a wide expanse of residential development and associated setbacks along its southeastern half. Alternative GG is not near the Wingate East or South Pasture Extension beneficiation plants and thus is not suitable for consideration as an alternative location for mining expansion. These constraints to mining and corridor development, combined with the great distance from any current or proposed beneficiation plants, eliminated Alternative GG from further evaluation.

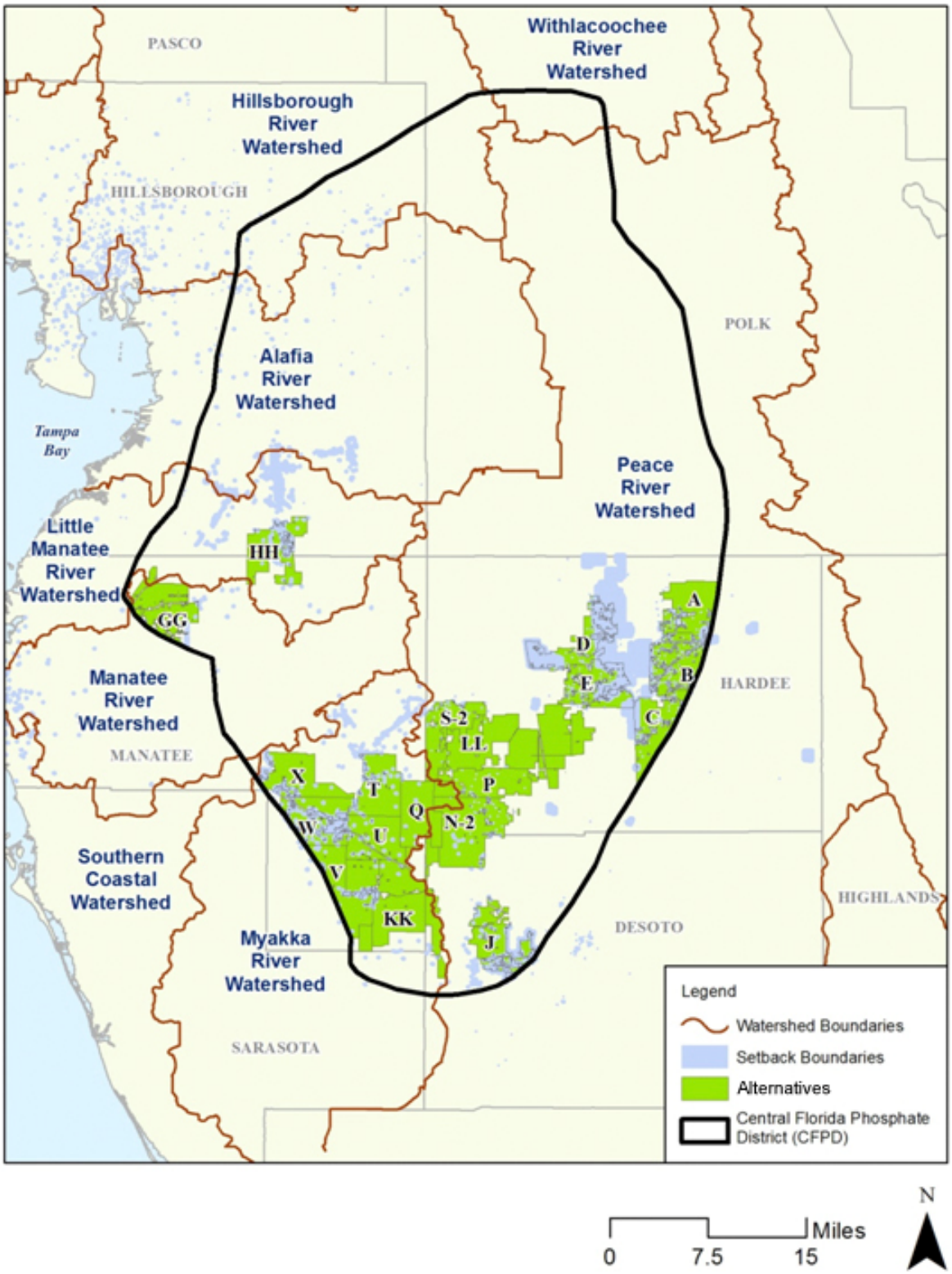



**Figure 29. Overlay of County Setback Areas for Phosphate Mines**

| Table 11. Ranking of Alternatives Based on Regulatory Setbacks | | | | |
|---|---|---|---|---|
| **SITE ID** | **Previous Acreage** | **Acreage Change Due to Setback** | **Remaining Acreage After Setback** | **Percent Change (reduction in available land)** |
| Site D | 8,918 | 5,961 | 2,957 | 67 |
| Site W | 8,619 | 4,052 | 4,566 | 47 |
| Site E | 8,816 | 4,114 | 4,702 | 47 |
| Site J | 8,827 | 3,414 | 5,413 | 39 |
| Site B | 8,710 | 2,836 | 5,874 | 33 |
| Site HH | 8,958 | 2,210 | 6,748 | 25 |
| Site C | 8,810 | 2,071 | 6,739 | 24 |
| Site T | 9,016 | 1,950 | 7,066 | 22 |
| Site U | 8,788 | 1,420 | 7,367 | 16 |
| Site V | 9,023 | 1,416 | 7,607 | 16 |
| Site X | 8,766 | 1,339 | 7,427 | 15 |
| Site A | 8,964 | 1,287 | 7,677 | 14 |
| Site N-2 | 14,645 | 1,393 | 13,251 | 10 |
| Site S-2 | 8,227 | 710 | 7,517 | 9 |
| Site Q | 8,734 | 509 | 8,225 | 6 |
| Site P | 9,003 | 369 | 8,634 | 4 |
| Site KK | 22,471 | 819 | 21,652 | 4 |
| Site GG | 9,700 | 221 | 9,479 | 2 |
| Site LL | 25,025 | 55 | 24,970 | 0 |

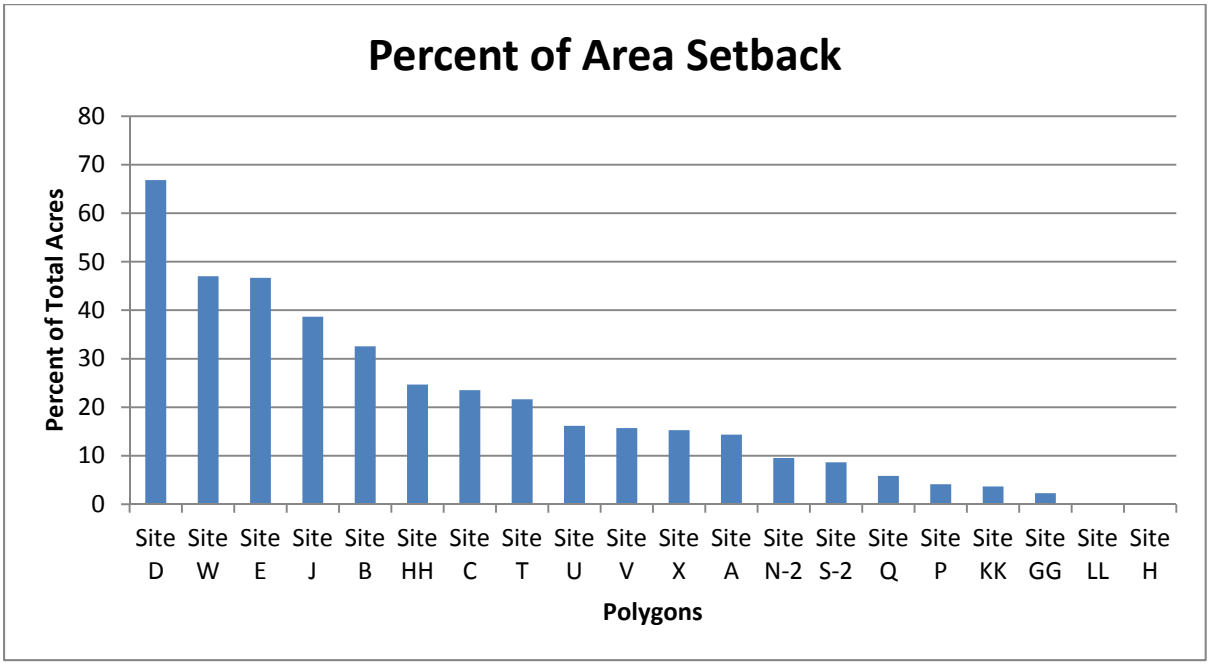



**Figure 30. Ranking of Alternatives Based on Setbacks**

This last screening step resulted in the removal of 64,181 acres from further consideration with the elimination of Alternatives C, D, E, J, GG, HH, and S-2. Figure 31 illustrates the remaining offsite alternatives with these alternatives eliminated.

## 12.0 Step 8: Apply Prospecting Data for Each Remaining Alternative

Following publication of the Draft AEIS, Mosaic provided prospecting data that could be used to evaluate the viability of mining in certain areas that could also exclude some alternatives from further consideration. While the CFPD represents an area with high potential for economically mineable phosphate rock, the quantity and quality of phosphate is not uniform. As mining has moved toward the southern extension of the CFPD, more areas have been surveyed. The ore body must meet minimum criteria for physical, chemical, and economic characteristics to be considered a proven reserve suitable for economical mining development (Stonegate Agricom Ltd., 2013; Mosaic, 2012). Ideally, these proven reserves are determined by drilling into the ore body using the spatial distribution of two holes per 40-acre block (Mosaic, 2012).

The percent of phosphate in the matrix analyzed and the percent of impurities contained may vary considerably, but there are widely accepted standards for an ore body to be considered economically acceptable. Two of the most important criteria are bone phosphate of lime (BPL) and minor element ratio or metal ratio (MER) (Stonegate Agricom Ltd., 2013). BPL defines a phosphate grade or the amount by weight percent of calcium phosphate in the ore body. In general, plants do not process phosphate rock with a grade lower than 60 BPL. Similarly, the MER refers to contaminants that, when present in the rock greater than a certain percent, cause disruptive effects in manufacturing of fertilizer. According to current requirements, the MER value cannot exceed 0.096 percent (Stonegate Agricom Ltd., 2013; Mosaic, 2012).

There are also a certain number of tests and borings that may be required to meet the requirements under the US Bureau of Mines and the USGS Principles for Defining Reserves (USGS, 1980). Such tests and borings may result in a commitment for a mine company to declare the reserves in a given area as measured or proven for economic purposes. Based on the data provided by the Applicants for most (but not all) of the alternatives evaluated above, those alternatives with sufficient prospecting borings that met both the BPL and MER criteria described above for acceptable quantity or quality of ore were retained for further evaluation. The data provided by Mosaic (2012) are summarized in Table 12. The information shown in Table 12 indicates the available data on BPL and MER from which prospecting data have been obtained for each offsite alternative.

The data in Table 12 are provided for individual alternative sites. Table 13 provides the evaluations of how these results affect alternatives that have been retained so far in screening, including some that were merged as a result of residential setbacks.

As the data in Table 13 indicate, only Alternatives A-2, W-2, KK, and LL provide suitable prospecting data, or have no data for exclusion, and can be carried forward as reasonable alternatives for continued evaluation in the AEIS.

Figure 32 illustrates the remaining alternatives, after Tier 1 and 2 screening, that are carried forward for more detailed analysis in Chapter 4 along with the Applicants' Preferred Alternatives and the No Action Alternative. Table 14 provides a comparison of representative data for all alternatives, including the Applicants' Preferred Alternatives. Tier 1 screening removed a total of 704,974 acres and Tier 2 screening removed a total of 121,658 acres.

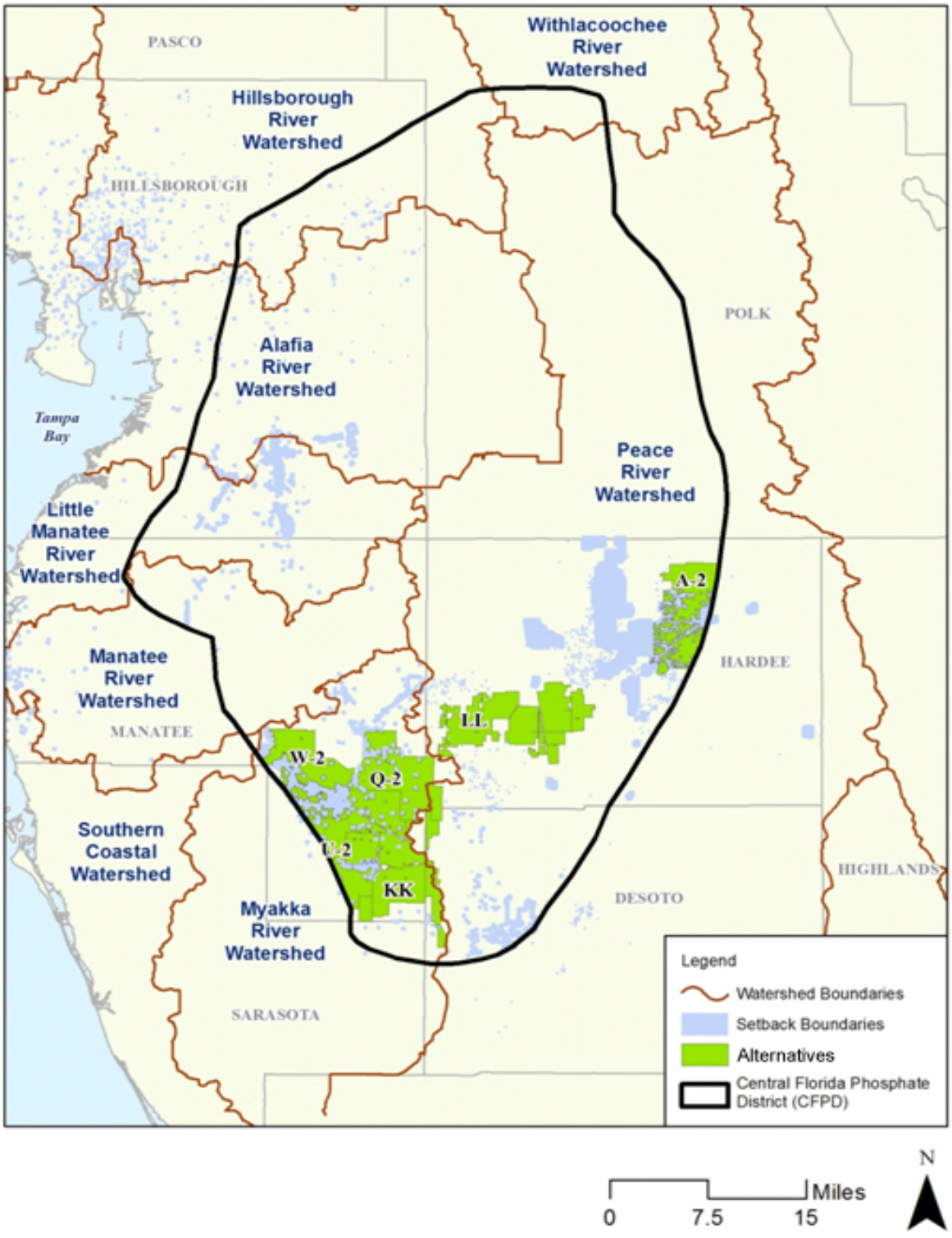



**Figure 31. Remaining Alternatives After Screening for County Regulatory Setbacks**

**Table 12. Summary of Available Ore Prospecting Data for Offsite Alternatives[a]**

| Site ID | Total Site Acreage | Borings Surveyed | BPL | MER | Eliminate Alternative | Basis |
|---|---|---|---|---|---|---|
| A[b] | 7,676 | 192 | 63.3 | 0.091 | No | Meets Criteria |
| B[b] | 5,874 | No Data | No Data | No Data | No | No Data |
| N-2 | 13,251 | 19 | 61.6 | 0.130 | Yes | Fails MER |
| P | 8,634 | 158 | 60.2 | 0.117 | Yes | Fails MER |
| Q[c] | 8,225 | 45 | 61.5 | 0.113 | Yes | Fails MER |
| T[c] | 7,065 | 3 | 63.4 | 0.102 | Yes | Fails MER |
| U[d] | 7,367 | 4 | 62.6 | 0.091 | No | Meets Criteria |
| V[d] | 7,607 | 23 | 58.0 | 0.112 | Yes | Fails BPL and MER |
| W[e] | 4,566 | No Data | No Data | No Data | No | No Data |
| X[e] | 7,427 | No Data | No Data | No Data | No | No Data |
| KK | 21,652 | No Data | No Data | No Data | No | No Data |
| LL | 24,970 | No Data | No Data | No Data | No | No Data |

[a]Prospecting data provided for specific alternatives, some of which were combined in a previous step
[b]A and B combined to create Alternative A-2.
[c]Q and T combined to create Alternative Q-2. Combined borings considered sufficient for evaluation.
[d]U and V combined to create Alternative U-2 Combined borings considered sufficient for evaluation.
[e]W and X combined to create Alternative W-2

**Table 13. Summary of Available Ore Prospecting Data for Remaining Offsite Alternatives after Merging Based on Setbacks[a]**

| Site ID | Total Site Acreage | Borings Surveyed | BPL | MER | Eliminate Alternative | Basis |
|---|---|---|---|---|---|---|
| A-2[b] | 8,189 | 192 | 63.3 | 0.091 | No | Meets criteria |
| N-2 | 13,251 | 19 | 61.6 | 0.130 | Yes | Fails MER |
| P | 8,634 | 158 | 60.2 | 0.117 | Yes | Fails MER |
| Q-2 | 15,291 | 48 | 61.5/63.4 | 0.113/0.102 | Yes | Fails MER |
| U-2 | 14,974 | 27 | 62.6/58.0 | 0.091/0.112 | Yes | Half of alternative fails BPL and MER |
| W-2 | 9,719 | No Data | No Data | No Data | No | No data |
| KK | 24,509 | No Data | No Data | No Data | No | No Data |
| LL | 25,231 | No Data | No Data | No Data | No | No Data |

[a]For combined alternatives, the values for borings are added and analyses evaluated separately.
[b]Data available only for Alternative A.

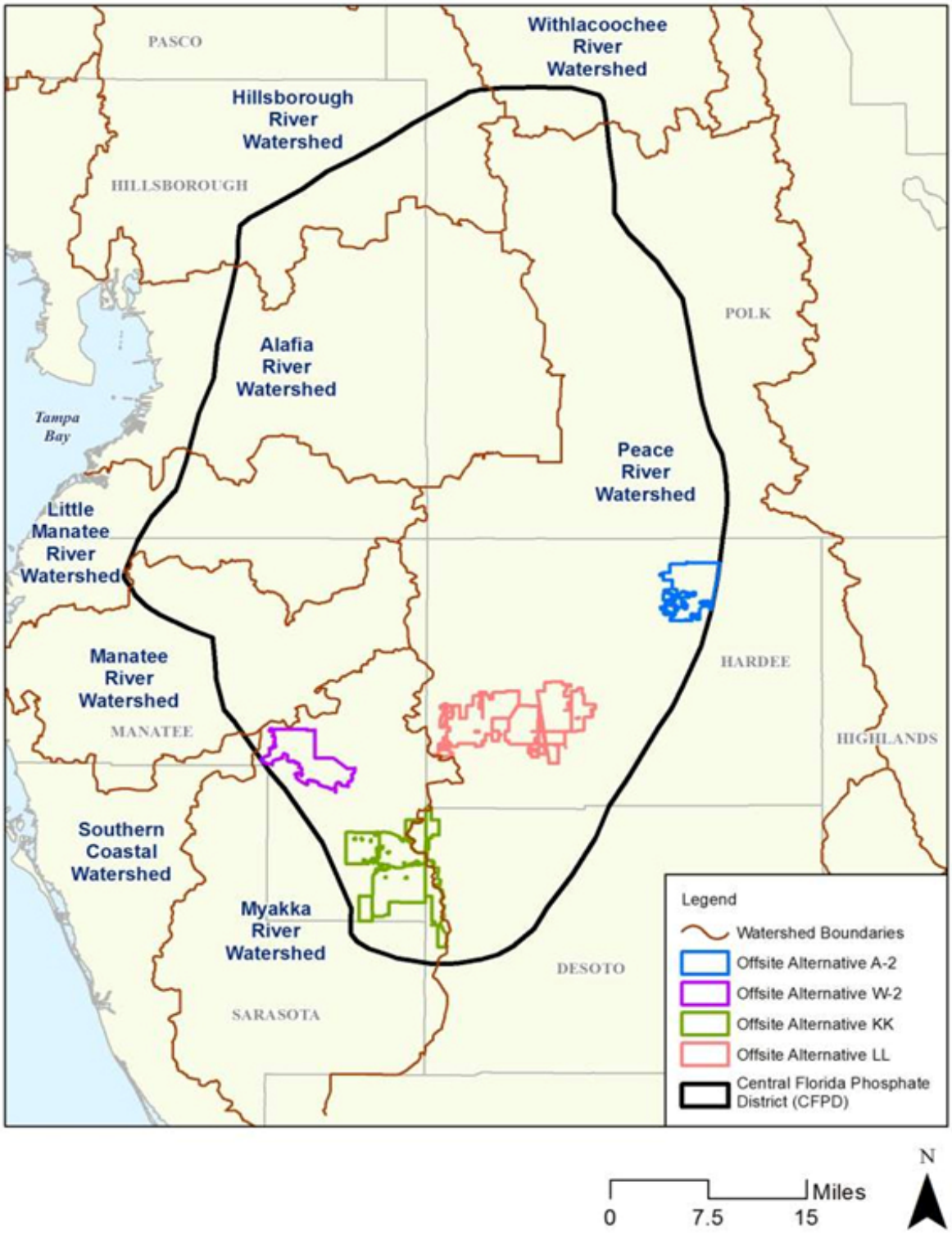


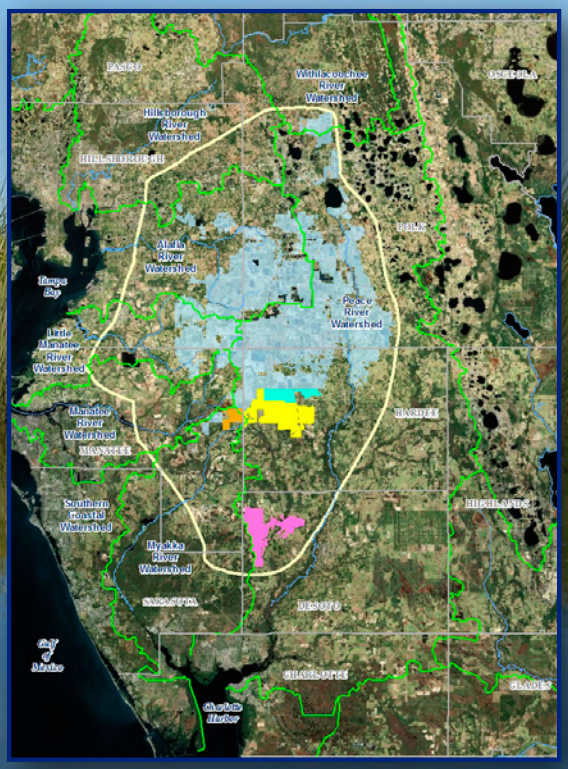

**Figure 32. Summary of All Offsite Alternatives to be Carried Forward for More Detailed Analysis**

## Table 14. Alternatives to be Assessed in More Detail[a]

| Alternative Number | Site Name | Current Size | Wetland/ Hydric Soils Acreage | Forested Wetlands Acreage | Florida Forever Proposed Acreage | FEMA/ NHD Acreage | IHN Acreage |
|---|---|---|---|---|---|---|---|
| 1 | No Action | N/A | N/A | N/A | N/A | N/A | N/A |
| 2 | Desoto Mine | 18,287 | 5,710 | 2,762 | 0 | 722 | 586 |
| 3 | Ona Mine | 22,320 | 8,773 | 3,680 | 0 | 425 | 1,716 |
| 4 | Wingate East Mine | 3,685 | 1,260 | 258 | 0 | 27 | 152 |
| 5 | South Pasture Mine Extension | 7,513 | 3,293 | 1,555 | 0 | 86 | 676 |
| 6 | Pine Level/ Keys Tract (Site KK) | 24,509 | 9,270 | 2,250 | 0 | 1,646 | 1,588 |
| 7 | Pioneer Tract (Site LL) | 25,231 | 10,509 | 6,259 | 0 | 1,656 | 3,001 |
| 8 | Site A-2 | 8,189 | 1,949 | 492 | 0 | 1,114 | 183 |
| 9 | Site W-2 | 9,719 | 3,803 | 826 | 0 | 378 | 261 |
| **Average** | | **14,932** | **5,571** | **2,260** | **0** | **757** | **1,129** |
| **Max** | | **25,231** | **10,509** | **6,259** | **0** | **1,656** | **3,001** |
| **Min** | | **3,685** | **1,260** | **258** | **0** | **27** | **152** |
| **Total** | | **119,453** | **44,567** | **18,082** | **0** | **6,054** | **7,902** |

[a]Areas shown for screening criteria are based on GIS analyses and may not agree with ground-truthed data provided by Applicants and do not represent USACE-approved jurisdictional determinations.

# Appendix C
# Aerial Photographs of Alternatives



# Appendix C

## Aerial Photographs of Alternatives

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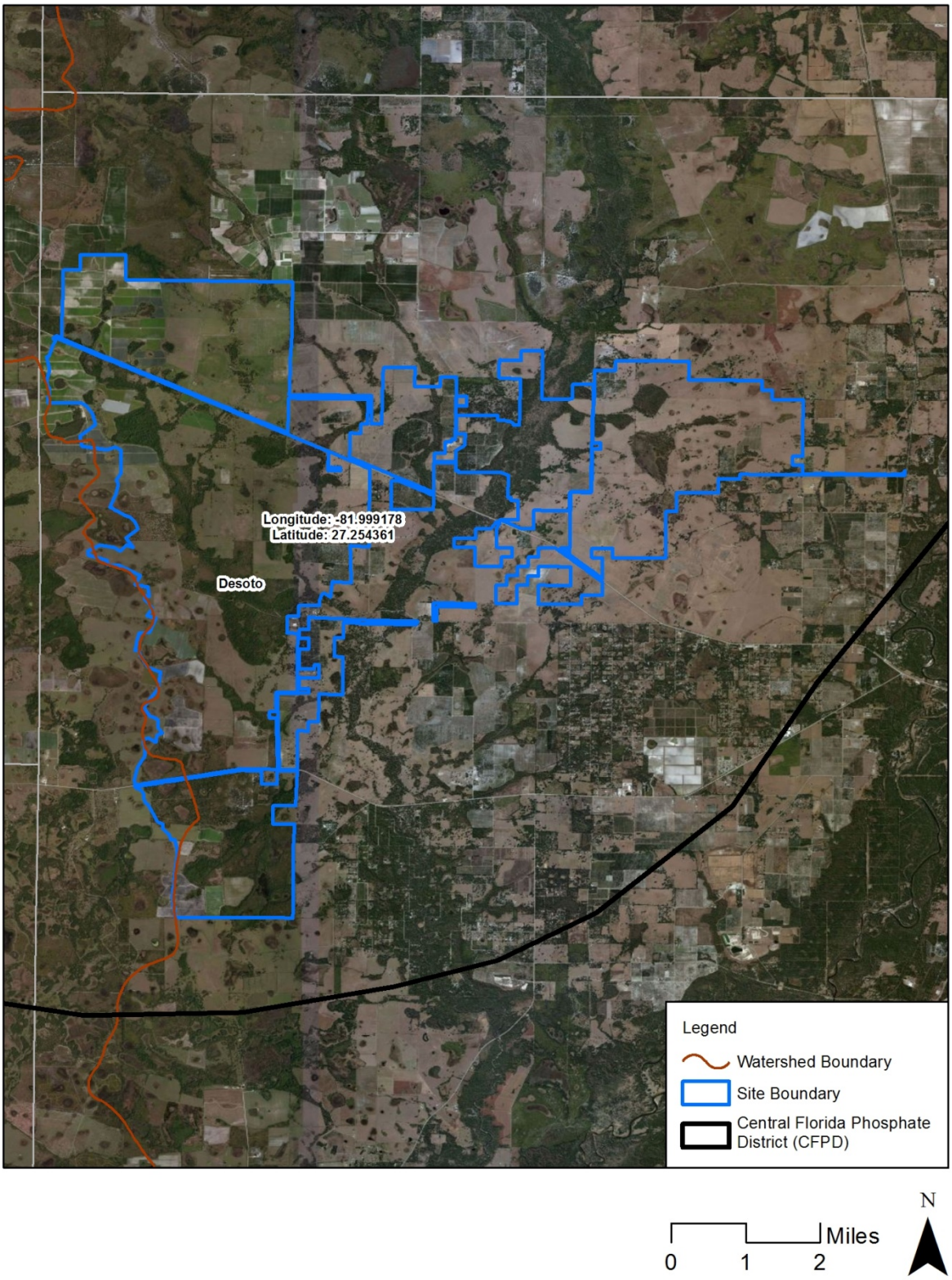
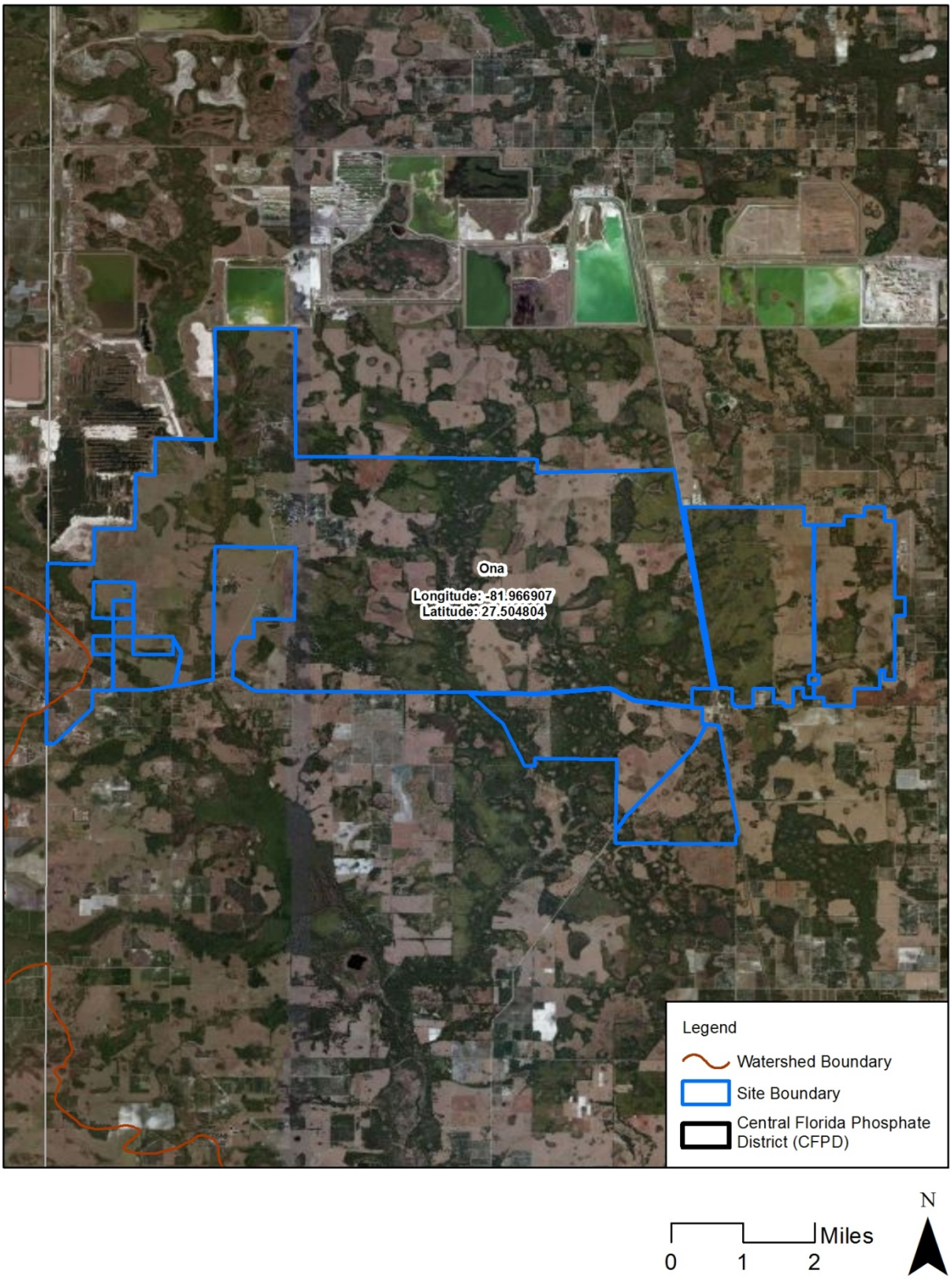
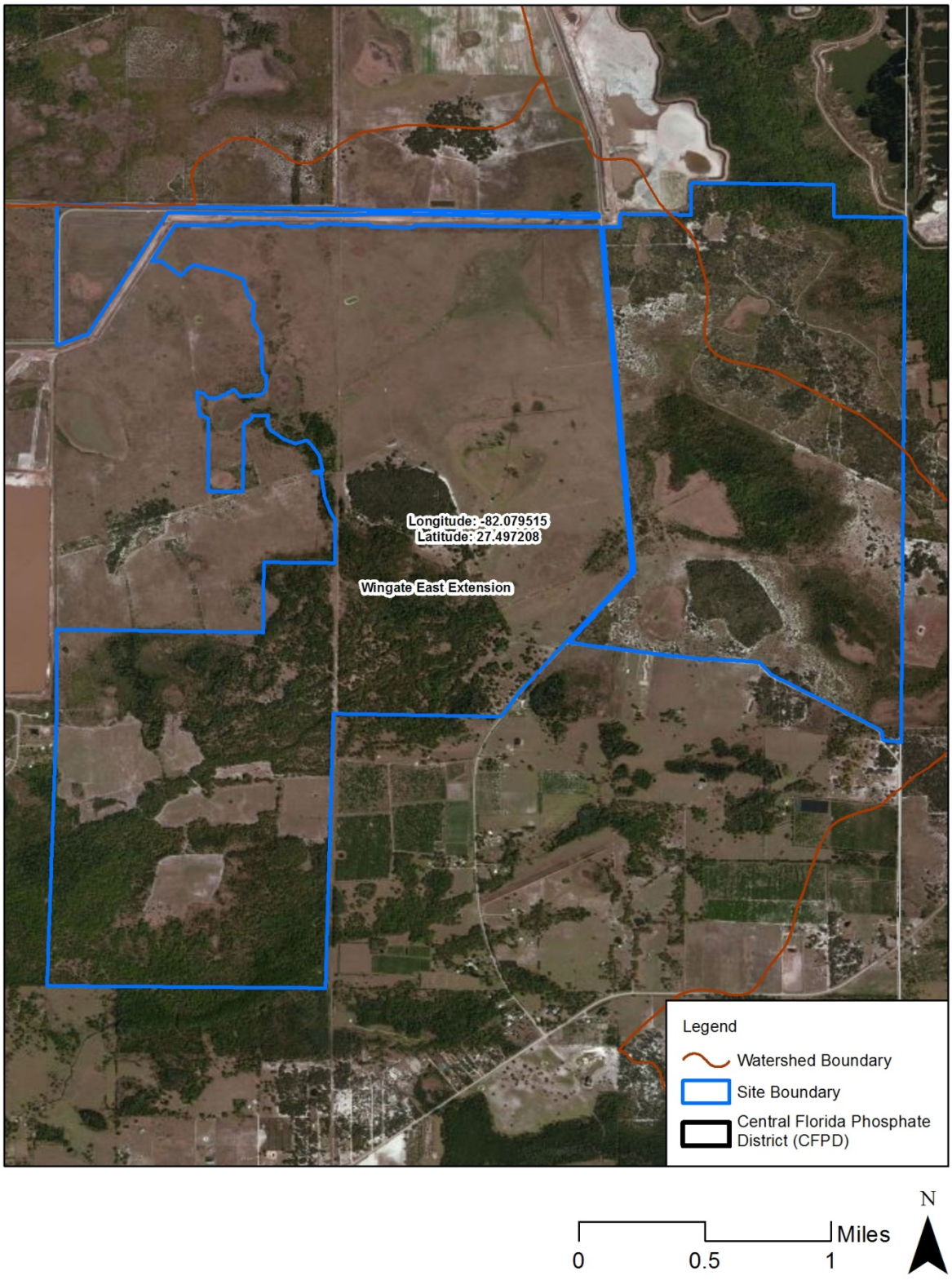


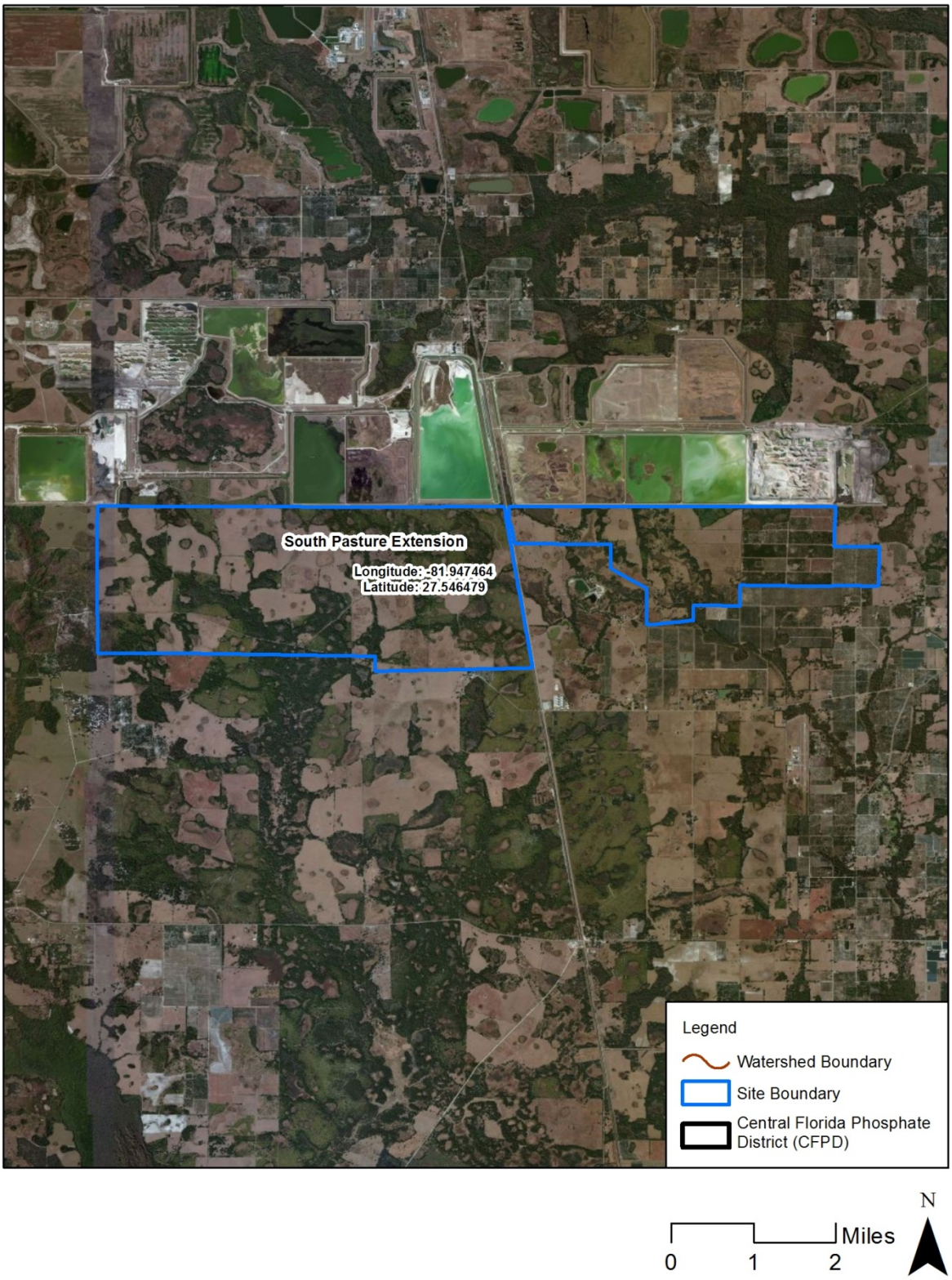

Alternative 2 (Mosaic's Proposed Desoto Mine)



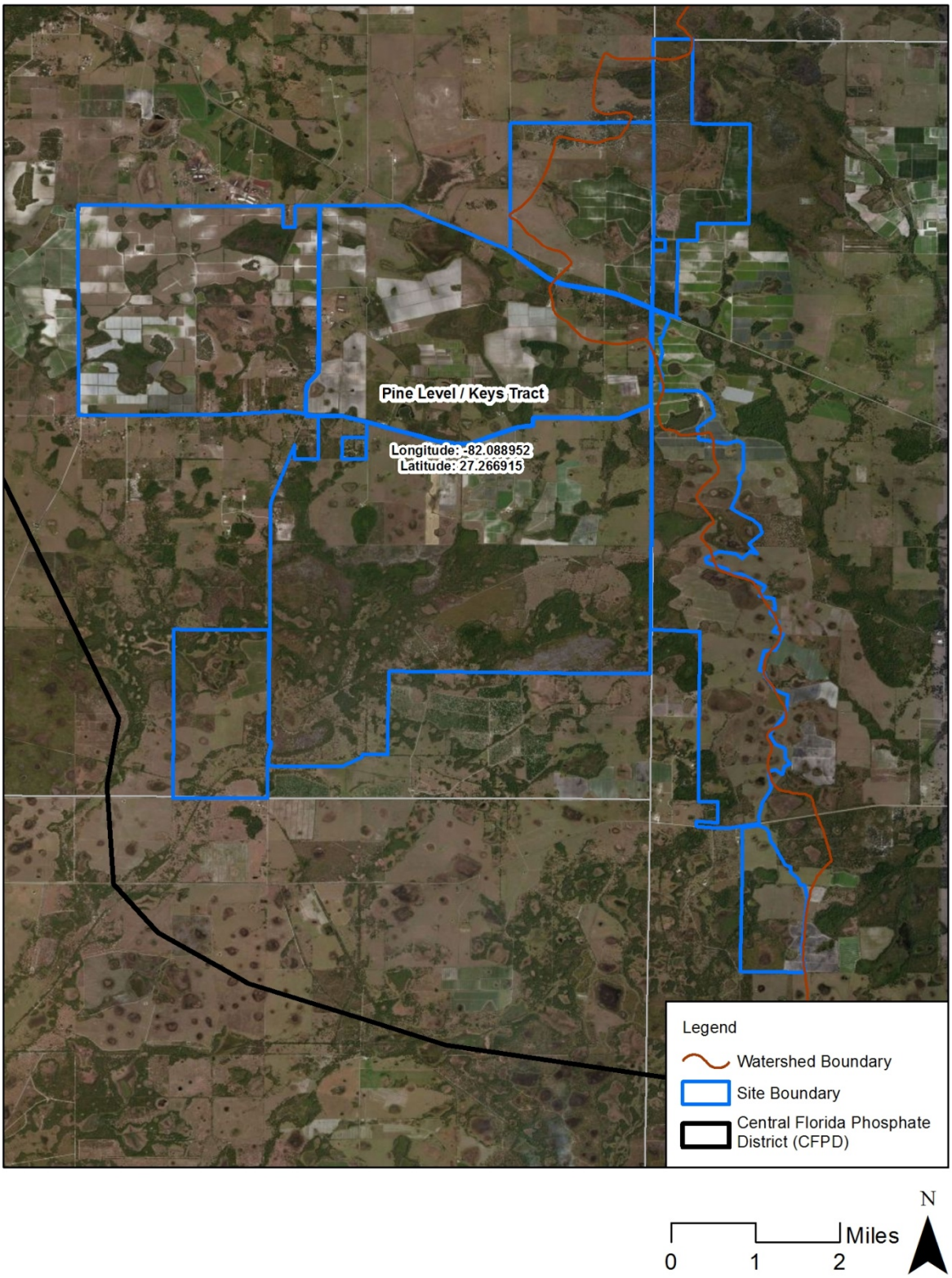

Alternative 3 (Mosaic's Proposed Ona Mine)



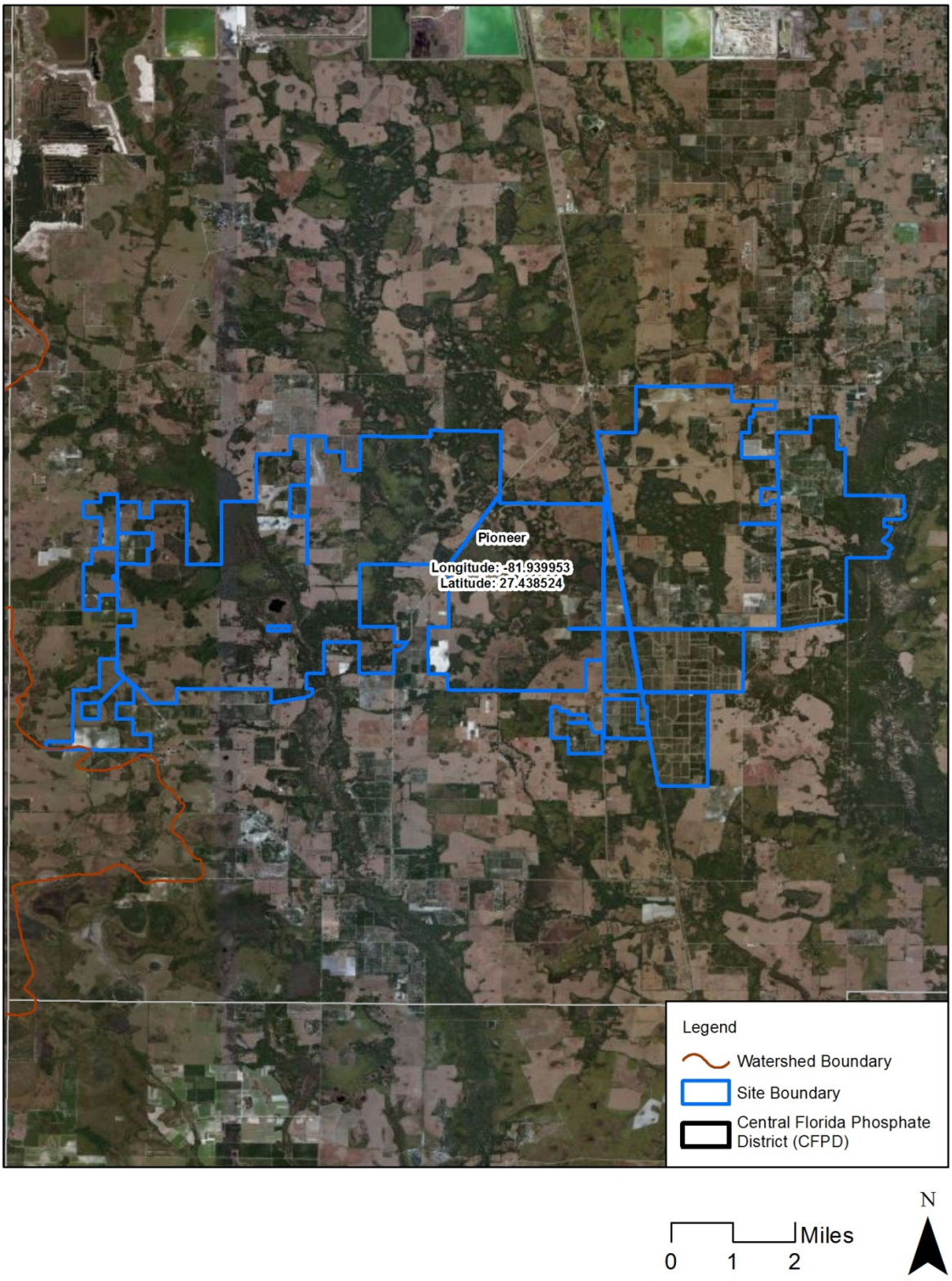

Alternative 4 (Mosaic's Proposed Wingate East Mine)



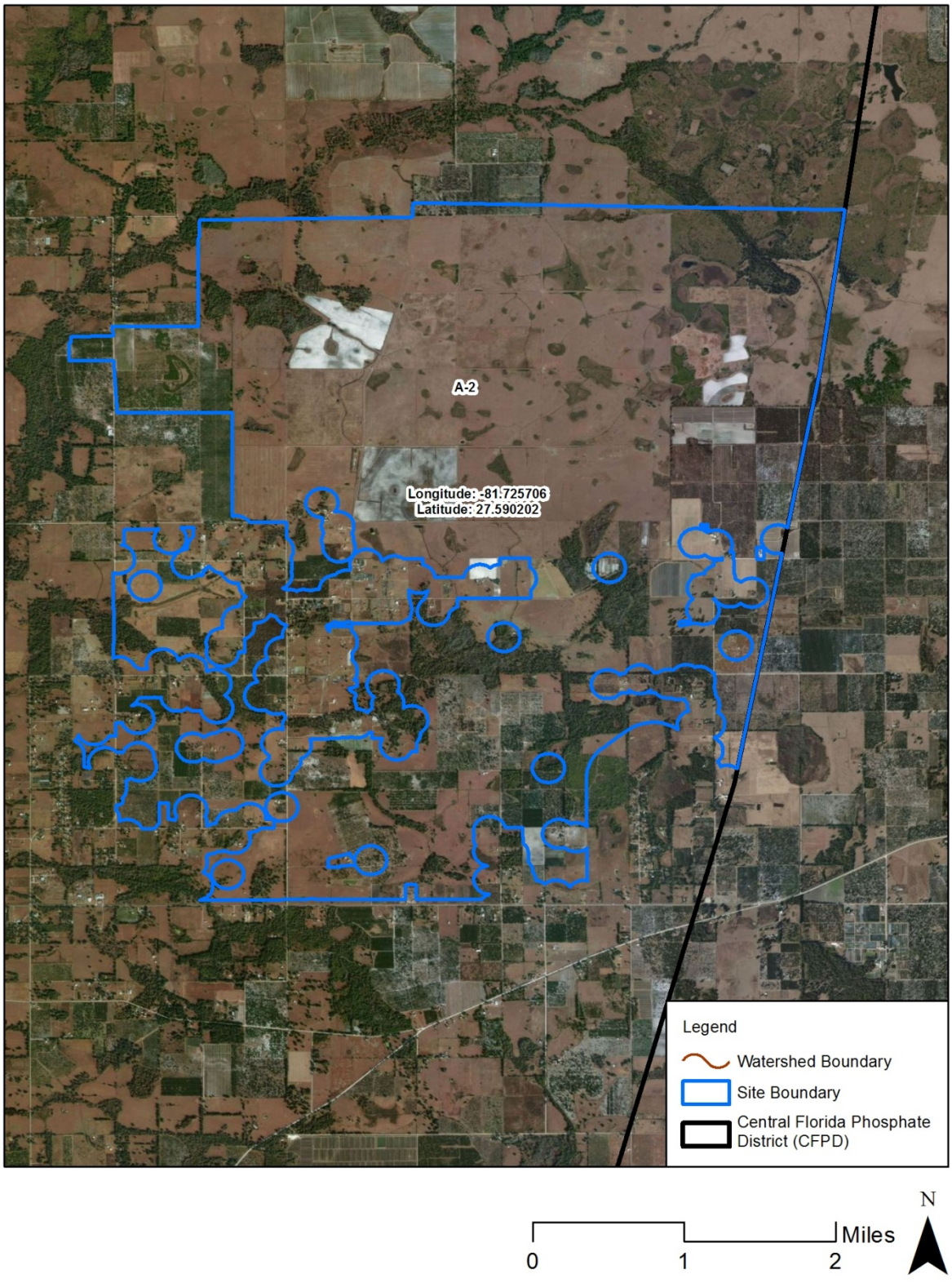

Alternative 5 (CF Industries' Proposed South Pasture Mine Extension)



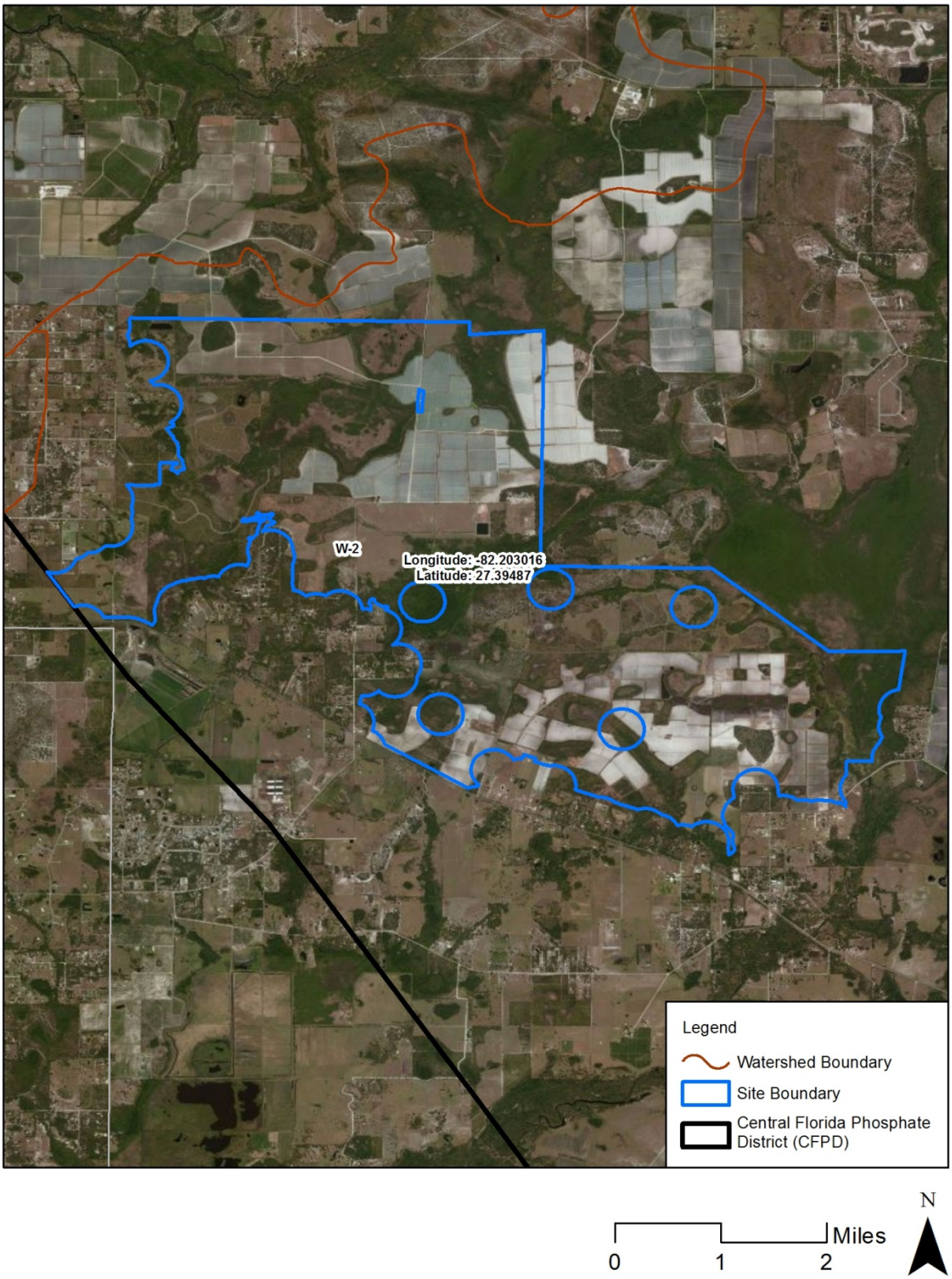

Alternative 6 (Pine Level/Keys Tract Offsite Alternative)




Alternative 7 (Pioneer Tract Offsite Alternative)




Alternative 8 (A-2 Offsite Alternative)




Alternative 9 (W-2 Offsite Alternative)