SOUTH FLORIDA WATER MANAGEMENT DISTRICT

February 11, 2016

Mr. Chris Stahl
Coordinator, Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, FL 32399-3000

Subject: U.S. Army Corps of Engineers — Herbert Hoover Dike Dam Safety Modification Study Draft Environmental Impact Statement SAI#: FL201601047515C

Dear Mr. Stahl:

The South Florida Water Management District (SFWMD) has completed its review of the U.S. Army Corps of Engineers (USACE) Draft Environmental Impact Statement for the Herbert Hoover Dike, Dam Safety Modification Study and the Tentatively Selected Plan for continued rehabilitation of the Herbert Hoover Dike (HHD) that surrounds Florida's Lake Okeechobee. The agency's technical comments are attached with this correspondence.

USACE investigations have affirmed the critical need for continued investment to reduce risk to human health and safety. SFWMD gratefully acknowledges the $600 million invested by Congress for the first phase of this work: replacement of HHD culverts and installation of a seepage wall in a portion of the dike.

The remaining tasks, including those identified in the Tentatively Selected Plan, require additional critical work such as completing the remaining culvert replacements, closing Zone 1 seepage wall gaps and construct a 6.6-mile seepage wall extension.

SFWMD calls on Congress and the USACE to maintain funding momentum and construction progress on this at-risk structure, which is classified as a national priority for continued rehabilitation. The projected $800 million cost to complete the job must be committed in the coming years to assure that the HHD can perform as designed to store additional water, provide flood protection and assure water supply and safety for tens of thousands of families in communities surrounding the lake.

Further, SFWMD strongly recommends a prompt initiation of the next modification of the current Lake Okeechobee Regulation Schedule (LORS 2008) so that completion of the two-year updating effort is concurrent with completion of culvert repairs and the new seepage wall.

To achieve this, SFWMD will work collaboratively with USACE, other agencies and interested citizens, with the goal of improving operating flexibility of Lake Okeechobee while continuing to protect human health and safety, the regional economy and South Florida's environment.

Sincerely,

Dan O'Keefe
Chairman, SFWMD Governing Board

Amended Supporting Comments to the State Clearinghouse Review
Herbert Hoover Dike Dam Safety Modification Study
Draft Environmental Impact Statement SAI#: FL201601047515C

In summary, the SFWMD requests that the United States Army Corps of Engineers (USACE) declare whether the Environmental Impact Statement (EIS) and recommended Tentatively Selected Plan (TSP) are adequate to meet the original Congressionally authorized design level of service, as well as previous operational schedules. The District also asks the USACE to confirm that the next Lake Okeechobee regulation schedule will allow adjustment in the Lake's upper elevation stages providing for an increase in storage, if the new operational plan recommends it.

1. The draft EIS discusses the effects of the proposed changes to the hydraulics and hydrology of the system and concludes that negligible to no impact is expected for surface and groundwater hydrology as a result of implementing Alternative 3. The draft EIS also documents observed changes to the freshwater-connate water interface in monitoring wells at several locations adjacent to the Reach 1 seepage wall. The District supports the Corps effort to continue the current ground water monitoring and the expansion of the ground water monitoring network in Consequence Zones A and B. The data and ongoing analysis will aid in determining the spatial and temporal impacts upon the freshwater-saline interface and potential changes to freshwater seepage from the Lake to the shallow surficial aquifer.

2. Section 3.8.1.8 The Florida bonneted bat is now listed as an Endangered species by the FWS under the ESA.

3. Page 1-15, Recommend replacing with the following language:

   "Acquisition of more than 100,000 acres of land needed for Kissimmee River Restoration and Headwaters Revitalization is substantially complete. This project is scheduled to be complete in 2029. Once restoration construction is complete, 40 square miles of Kissimmee River and floodplain ecosystem would be restored including almost 63,000 acres of wetlands (38,000 acres of riverine floodplain and 25,000 acres of lake littoral zone) and 40 miles of historic river channel. The restoration of the Kissimmee River is dependent on implementation of a headwater regulation schedule that provides dynamic storage in Lakes Kissimmee, Cypress, and Hatchineha and subsequent inflows to the Kissimmee River to meet restoration goals. Inflow volumes delivered to Lake Okeechobee from the restored Kissimmee River will remain mostly unchanged, with slight reduction due to increased evapotranspiration associated with reintroduced sheet flow across the floodplain. The timing of delivery will be attenuated by 1 to 2 months."

4. Page 2-29: Is there a cutoff wall in Alternative 4? Test reads "Figure 2-18 depicts the location of the cutoff wall for Alternative 4".

5. Page 3-7, paragraph 5, changes "Culverts S-2 and S-3" to "Pump Stations S-2 and S-3".

6. Page 3-11, second paragraph, should note that 298 Districts are only a portion of the agricultural lands served by Lake Okeechobee. The SFWMD also operates the gated spillways, S-351, S-352 and S-354 to provide supplemental irrigation deliveries to other agricultural lands.

7. Table 3-1: If the draft EIS assumes that the culvert replacements are completed, then this table should reflect that the culverts are no longer CMP but concrete box culverts.

8. Table 3-2 through 3-5, recommend providing a statement that the risk analysis determined that the non-Federal structures were inspected and determined to not need replacement or risk reduction remediation.

9. Page 4-6, Kissimmee River Restoration (KRR) Project Complete

    a. Omit the following last sentence in paragraph 1 ..." Ongoing studies as part of the Kissimmee Basin Modified Water Control Plan to continue to develop flood operations for the anticipated future state of the KRR Project."

FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Mr. Eric Summa
Chief, Planning & Policy Division, Jacksonville USACE
701 San Marco Boulevard
Jacksonville, Florida 32207-8175

March 1, 2016

RE: DHR Project File No.: 2015-6215 Received by DHR: December 24, 2015
Project: Department of the Army, Jacksonville District Corps of Engineers
Draft Environmental Impact Statement, for the Herbert Hoover Dike Dam Safety Modification Study
Glades, Hendry, Martin, Okeechobee and Palm Beach Counties, Florida

Mr. Summa:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places.* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties.*

Thank you for providing the Florida State Historic Preservation Officer (SHPO) the opportunity to comment on the Draft Environmental Impact Statement (EIS) for the Herbert Hoover Dike (HHD) Dam Safety Modification Study. According to the Draft EIS, Alternative 3 is the preferred alternative. It is our understanding that many of the project activities will take place within the Federal Right-of–Way for the Herbert Hoover Dike, a National Register eligible cultural resource, while other project activities may occur outside of this area. We further note that there are many cultural resources that are eligible for the National Register of Historic Places or that have not yet been evaluated for eligibility that may fall within some areas of this project.

We note that consultation with this office was initiated in July of 2013 and will continue through the completion of this project. We look forward to continuing to work with you.

For questions, please contact Robin Jackson, Historic Sites Specialist at *Robin.Jackson@dos.myflorida.com*, or by telephone at 850.245.6333 or 800.847.7278.

Sincerely

Timothy A. Parsons, Ph.D.,
Interim Director, Division of Historical Resources, and
State Historic Preservation Officer

FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Mr. Jason Spinning
Chief, Planning & Policy Division, Jacksonville USACE
701 San Marco Boulevard
Jacksonville, Florida 32207-8175

April 25, 2016

RE: DHR Project File No.: 2016-61B/ Received by DHR: March 14, 2016
Project: Department of the Army, Jacksonville District Corps of Engineers
Draft Environmental Impact Statement, for the Herbert Hoover Dike (HHD)
Dam Safety Modification Study (DSMS), Tentatively Selected Plan

Mr. Spinning:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places.* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties.*

It is the understanding of this office that as a result of the DSMS, a Tentatively Selected Plan (TSP) is being recommended that is expected to occur in previously disturbed HHD federal right-of –way and is not expected to adversely affect historic resources. We further note that each proposed undertaking will be presented as a separate consultation with this office, once the designs have been finalized and prior to construction. We look forward to continuing to work with you.

For questions, please contact Robin Jackson, Historic Preservationist, Compliance and Review at *Robin.Jackson@dos.myflorida.com*, or by telephone at 850.245.6333 or 800.847.7278.

Sincerely

Timothy A. Parsons, Ph.D.,
Director, Division of Historical Resources, and
State Historic Preservation Officer

EVERGLADES AGRICULTURAL AREA ENVIRONMENTAL PROTECTION DISTRICT

AN INDEPENDENT SPECIAL DISTRICT
& POLITICAL SUBDIVISION OF
THE STATE OF FLORIDA

ONE CLEARLAKE CENTRE
250 SOUTH AUSTRALIAN AVENUE
SUITE 600
WEST PALM BEACH, FLORIDA 33401

CHARLES F. SCHOECH
ADMINISTRATOR, ASST. SECRETARY
& GENERAL COUNSEL

CHARLES HAAS
FINANCIAL MANAGER

TELEPHONE: (561) 655-0620
TELECOPIER: (561) 655-3775

February 23, 2016

VIA E-MAIL AND U.S. MAIL
(HHDEnvironment@usace.army.mil AND stacie.j.auvenshine@usace.army.mil)

Department of the Army
Attention: Stacie Auvenshine
Jacksonville District Corps of Engineers
U.S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-8175

RE: Everglades Agricultural Area Environmental Protection District's Comments on "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) drafted by the Department of the Army; U.S. Army Corps of Engineers, Jacksonville District

Dear Ms. Auvenshine:

This letter provides the Everglades Agricultural Area Environmental Protection District's (EPD) comments on the U.S. Army Corps of Engineers' (USACE) December, 2015 draft Environmental Impact Statement – Herbert Hoover Dike Dam Safety Modification Study (DSMS) (HHD Draft EIS).

The EPD was established by the Florida Legislature as a special district representing agricultural landowners within the Everglades Agricultural Area (EAA) for the purpose of ensuring environmental protection by conducting scientific research regarding water and land management practices within the EAA. Farmers within the EAA rely on water supply and flood protection afforded by the Central and Southern Florida Flood Control Project (C&SF Project), including the HHD and Lake Okeechobee for their agricultural operations. Therefore, rehabilitation of the HHD to standards appropriate to fulfill C&SF Project's multiple purposes, at least to historically experienced performance, is critical.

The EPD encourages you to continue the expeditious completion of the HHD repairs and also initiate a study to formally modify the Lake Okeechobee regulation schedule, so the well documented water supply deficiencies of the current interim schedule can be corrected upon completion of the HHD repairs. We also encourage you to take advantage of the HHD repairs made to date to give yourself more flexibility in holding water in the Lake when we have wet

periods like we are experiencing now. Using operational flexibility in the existing 2008 Lake Okeechobee regulation schedule, and recognizing the repairs already, or soon to be, complete, you and the Water Management District should evaluate operations to store more water in Lake Okeechobee as soon as possible. The commitment in the 2008 LORS' Final Supplemental Environmental Impact Statement (FSEIS at iv – v) and the Record of Decision recognizes the value of this opportunity.

The Lake's infrastructure, including the HHD, must be adequate to enable a lake regulation schedule capable of meeting all Project purposes established by Congress since 1948. To that end, we request that you provide confirmation in the HHD EIS that the HHD's structural integrity will be sufficient to allow water levels equal to or exceeding those experienced in the past. This clarification is necessary in view of statement in the EIS that the 2008 LORS is the base condition utilized in the alternatives selection process. It is not clear what that means with respect to future lake management options.

Thank you for considering these comments. We look forward to USACE's final HHD EIS, your continued work on the Dike, and future Lake operations which better serve the C&SF Project's Congressionally authorized purposes. We are very grateful for the work you have already done around the lake and appreciate the dedication of your staff who have accomplished so much already in protecting our community.

Sincerely,

Malcolm S. Wade, Jr.
Chairman, Environmental Protection District

MARTIN COUNTY
BOARD OF COUNTY COMMISSIONERS
2401 S.E. MONTEREY ROAD • STUART, FL 34996

Telephone: 772.221.2357
Fax: 772.288.5432
Email: ascott@martin.fl.us

February 23, 2016

Stacie Auvenshine
U.S. Army Corps of Engineers Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: Herbert Hoover Dike Dam Safety Modification Study Draft Environmental Impact Statement

Dear Ms. Auvenshine:

The safety of the Herbert Hoover Dike (HHD) is critical to Martin County. The current regulation schedule for the lake is limited, due to dike integrity. This situation contributes to extreme fluctuations between damaging freshwater releases to our estuaries and then to tide. Unfortunately we are experiencing massive lake discharges now into our St. Lucie River and Estuary and on to the Indian River Lagoon.

The health, safety and welfare of south Florida residents are central to the need for federal funding assistance. Not only is the dike integrity crucial to the citizens of south Florida, but the inability to handle excess stormwater runoff has become an all too frequent catastrophe to the St. Lucie and Caloosahatchee Estuaries. The massive amounts of stormwater released from Lake Okeechobee carries pollutants, and such releases can upset the delicate salinity balance of our coastal ecosystems. Therefore, we experience the destruction of environmentally significant plants and animals. The toxic blooms of blue green algae attack plants and marine life and force the posting of warnings by the State Health Department to avoid contact with our waterways. These discharges are disastrous to our economy and our environment.

We support the work of the US Army Corps of Engineers to rehabilitate the dike system, and we continue to advocate for robust funding for the HHD project. The HHD is critical to protecting surrounding communities from floodwaters, and it is the "liquid heart" of a multi-billion dollar effort to restore America's Everglades. The HHD greatly contributes to the economy, environment, navigation, agriculture, water supply, and flood protection / public safety in all of South Florida. Most importantly to Martin County, a restored HHD can hopefully mitigate some of the devastating impact of freshwater releases on our fragile ecosystem.

Therefore, the Martin County Board of County Commissioners strongly feels that the HHD must maintain a high priority status for funding until the rehabilitation project is completed.

Further, it is essential that the Corps expedite the project as much as is possible.

Thank you for the opportunity to provide comments on the critical importance of this project to the health and wellbeing of Martin County and all of South Florida.

Sincerely,

Anne Scott, Chair
Martin County Board of County Commissioners

AS/kp

C: Honorable Members of the Martin County Board of County Commissioners
Taryn Kryzda, County Administrator

Auvenshine, Stacie SAJ

From: Allie Bury <alliebury@gmail.com>
Sent: Monday, February 22, 2016 4:25 PM
To: HHDEnvironment, SAJ
Subject: [EXTERNAL] Comments on the HHD Draft Environmental Impact Statement

To whom it may concern,

After reviewing the draft EIS on the Herbert Hoover Dike, I have several comments and concerns:

The Herbert Hoover Dike was built in the 1930s to prevent flooding like those in 1926 and 1928 hurricane events that killed an estimated 2,400 and 3,400 people. This dike has successfully served its purpose, except that there is current water seepage from the '04 and '05 hurricanes. In addition, the record breaking amounts of rainfall this winter has increased the lake level to over 16 feet, close to capacity. It is critical that the dike undergoes immediate repair in order to protect citizens from dike failure.

In addition, the dike needs to be repaired and enhanced to secure high levels of water and reduce the amount of emergency releases. As a citizen of Fort Myers Beach, I have worries and concerns about an influx of water being released from Lake Okeechobee. Firstly, Lake O water is loaded with nitrogen and phosphorous pollutants. Once this water is released, it causes an upset of nutrient balances in the Caloosahatchee River and eventually in the Gulf of Mexico. This nutrient loading causes algal blooms and severe damage to all living organisms such as oyster beds, fisheries, and sea grass beds. Currently, FMB is suffering from red tides and severe outbreaks of red drift algae. This is causing damage to marine organisms such as fish, conch, and plants among many others.

Lastly, the water releases cause economic and aesthetic impact to all areas affected. The muddy waters and red tides are creating a heavily polluted beach with large amounts of dead organisms. This is causing large amounts of economic impacts due to the heavy reliance of tourism. Vacationers and locals on FMB are both highly perturbed and disgusted by the state of the water in both Estero Bay and the Gulf of Mexico.

The reconstruction of the dike is absolutely necessary in order to protect public safety, as well as decrease potential impacts on ecological, cultural, and aesthetic resources.

Antonio Arruza

2/20/16

FGCU Coastal Zone Management

Prof. Frank Gable

To whomever it may concern,

This letter addresses the Army Corps of Engineers in regards to the current risk of water level affecting public safety from Lake Okeechobee. In Particular, my concern is with the Herbert Hoover Dike Dam (HDD) and whether or not it has been rated on a Saffir-Sympsons scale to withstand up to a category five hurricane. This is an urgent matter primarily relating to public safety but with water quality as well. As the water level increases, which is around 16ft as of Feb 7th, the more threatening a storm can be because it would take less wind to cause the water to over wash. As with Florida's history, we have had cases of bad storms and I quote from the draft EIS on the Corps rating the HDD in 2007 as, "critically near failure or extremely high risk". A failure in the outflow capacity will result in storm surge waves destroying nearby communities, canals, rivers, and wildlife. We must be prepared and if the HDD is not fit for a storm then the immediate discharge of water would be necessary for public safety. Thus I agree with Governor Rick Scott in proposing that L-29 canal water level be raised for water from Lake Okeechobee to be relocated. Thank you for your time.

Kind Regards,

Antonio A. Arruza

Auvenshine, Stacie SAJ

From: Collin Feinberg <collinfein@hotmail.com>
Sent: Tuesday, February 23, 2016 8:37 PM
To: HHDEnvironment, SAJ
Subject: [EXTERNAL] Herbert Dike

Dike Comment

Hello I am a citizen commenting on the draft environmental impact statement and concerned about the points the daft makes about safety. There is a statement about the dike needing to be “tolerable” there should be an expectation of less than 0.001 lives lost annually. I agree that there can’t be anything man made of this magnitude and have a 100% safety rate. However I believe the word tolerable shouldn’t be an appropriate word. Part of the definition of tolerable is mediocre which I can safely say that is far from the proper term used for a large scale dike. There is also significant issues with seepage that needs to be properly handled. Seepage can allow other chemicals to fester underneath the dike, which can cause them to be absorbed into the ground and potentially the groundwater. The dike should have more strict regulations in order to protect the people and the land around it. Erosion should be priority because this can affect the stabilization and integrity of the dike. Try and work on keeping erosion to a minimum or replace the soil that is leaving and causing piping with new soil.

Dike Comment

Hello I am a citizen commenting on the draft environmental impact statement and concerned about the points the daft makes about safety. There is a statement about the dike needing to be “tolerable” there should be an expectation of less than 0.001 lives lost annually. I agree that there can’t be anything man made of this magnitude and have a 100% safety rate. However I believe the word tolerable shouldn’t be an appropriate word. Part of the definition of tolerable is mediocre which I can safely say that is far from the proper term used for a large scale dike. There is also significant issues with seepage that needs to be properly handled. Seepage can allow other chemicals to fester underneath the dike, which can cause them to be absorbed into the ground and potentially the groundwater. The dike should have more strict regulations in order to protect the people and the land around it. Erosion should be priority because this can affect the stabilization and integrity of the dike. Try and work on keeping erosion to a minimum or replace the soil that is leaving and causing piping with new soil.

Sent from Windows Mail

County Coalition for Responsible Management of Lake Okeechobee • St. Lucie and Caloosahatchee Estuaries • Lake Worth Lagoon

GLADES COUNTY

HENDRY COUNTY

HIGHLANDS COUNTY

LEE COUNTY

MARTIN COUNTY

OKEECHOBEE COUNTY

OSCEOLA COUNTY

PALM BEACH COUNTY

ST. LUCIE COUNTY

February 23, 2016

Stacie Auvenshine
U.S. Army Corps of Engineers Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: Herbert Hoover Dike Dam Safety Modification Study Draft Environmental Impact Statement

Dear Ms. Auvenshine:

As Chairman of the County Coalition that convenes this association of the sixteen counties that comprise the jurisdictional area of the South Florida Water Management District, I am writing to express our support for funding for the Herbert Hoover Dike and the importance of the dike's rehabilitation to the County Coalition.

The safety of the Herbert Hoover Dike (HHD) is critical to the County Coalition. The current regulation schedule for the lake is limited, due to dike integrity. This situation contributes to extreme fluctuations between damaging freshwater releases to our estuaries and then to tide. Unfortunately we are experiencing massive lake discharges now into the Caloosahatchee estuaries and St. Lucie River and Estuary and on to the Indian River Lagoon.

The health, safety and welfare of south Florida residents are central to the need for federal funding assistance. Not only is the dike integrity crucial to the citizens of south Florida, but the inability to handle excess stormwater runoff has become an all too frequent catastrophe to the St. Lucie and Caloosahatchee Estuaries.

We support the work of the US Army Corps of Engineers to rehabilitate the dike system, and we continue to advocate for robust funding for the HHD project. Each year, the County Coalition gathers representatives from these sixteen counties to develop a unified list of federal legislative priorities. The Coalition has long advocated that solutions rely on what we can agree on, and how we can move forward, together. Since the County Coalition began convening the 16 counties, the top priority has remained the Herbert Hoover Dike -increasing annual appropriation or rehabilitation of the HHD to accelerate project completion. The HHD is critical to protecting surrounding communities from floodwaters, and it is the "liquid heart"

of a multi-billion dollar effort to restore America's Everglades. The HHD greatly contributes to the economy, environment, navigation, agriculture, water supply, and flood protection / public safety in all of South Florida. Therefore, the County Coalition strongly feels that the HHD must maintain a high priority status for funding until the rehabilitation project is completed.

Further, it is essential that the Corps expedite the project as much as is possible.

Thank you for the opportunity to provide comments on the critical importance of this project to the health and wellbeing of all of South Florida.

Sincerely,

Karson Turner, Chairman, County Coalition
Commissioner, Hendry County
c: County Coalition

Enclosure

c/o County Administrator, Martin County
2401 S .E. Monterey Road, Stuart, FL 34996

FLORIDA FARM BUREAU FEDERATION

THE VOICE OF AGRICULTURE

February 22, 2016

Mr. Chris Stahl
Florida Department of Environmental Protection
Florida State Clearinghouse
3900 Commonwealth Blvd. MS 47
Tallahassee, FL 32399-3000

Dear Mr. Stahl:

RE: Department of the Army, Jacksonville District Corps of Engineers - Draft Environmental Impact Statement for the Herbert Hoover Dike Dam Safety Modification Study Report

Although the Florida Farm Bureau Federation was not formally on the list of recipients to review the subject document we appreciate the opportunity to comment on the Draft Environment Impact Statement (EIS) for the Herbert Hoover Dike (HHD) Dam Safety Modification Report dated December 2015. We endorse the comments submitted by the Florida Department of Agriculture and Consumer Services (FDACS) on February 12, 2016 concerning this draft EIS report. Our focus, in align with FDACS, is to review and comment on recommendations and decisions regarding such important projects that may impact farming operations as well as rural agricultural communities around Lake Okeechobee and throughout the State of Florida.

The Lake Okeechobee Regulation Schedule LORS2008 is important on many fronts, environmental, economic, and flood protection. We support a balanced approach for managing lake levels during and after the HHD rehabilitation. We are in favor of alternatives that maximize the water use communities existing permitted water allocations, minimizing the potential for short-term water supply shortages and assuring the predictability of a continued and reliable water supply. We also support recognition within all alternatives that water emergencies include both flooding and drought relief.

In Section 3.3 of the report, the statement identifying the major agricultural uses in the area is grossly inaccurate. We suggest working with FDACS to more accurately reflect agricultural land uses throughout the project area. Comments in Chapter 4, concerning water quality, identify agriculture as a significant source of pollution to Lake Okeechobee. We would urge the USACE to also include a paragraph on best management practices (BMPs) noting that agriculture has been implementing BMPs north and south of the Lake for the last three decades resulting in improvements in water quality runoff into Lake Okeechobee and south into the Water Conservation Areas. Improvements in water quality due to implementation of agricultural BMPs have been documented from data collected by the South Florida Water Management and the Florida Department of Environmental Protection.

We also agree with FDACS concerning changes in the saltwater interface in the Common Inundation Zone (CIZ) B and a need for a more comprehensive monitoring plan to determine whether or not this is an impact due to the shallow cutoff wall. Likewise we feel there is no substantial scientific information that supports a hydrologic relationship between EAA canal operations and salinities in the surficial aquifer along the perimeter of the Lake from Port Mayaca south to Moore Haven.

Lastly agricultural communities have experienced economic benefits from visitors and residents using the paved portions of the Lake Okeechobee Scenic Trail. We encourage the USACE to pursue funding to replace the paved portions on the Levee using Section 111 Chief of Engineer's discretionary funds.

Thank you for the opportunity to provide comments on this important document. We look forward to continue working with all State and Federal Agencies toward the completion of the HHD Rehabilitation Project as well as other restoration projects that serve to improve a balanced and sustainable approach to managing south Florida's water and natural resources. Should you have any questions concerning comments from the Florida Farm Bureau Federation please do not hesitate to contact Gary Ritter at 352-727-0547.

Sincerely,

Gary Ritter
Assistant Director of Government and Community Affairs
Florida Farm Bureau Federation

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Richard B. Russell Federal Building
75 Ted Turner Drive S.W., Suite 1144
Atlanta, Georgia 30303

ER 15/0711
9043.1

April 12, 2016

Stacie Auvenshine
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: Comments on the Notice of Availability of Draft Environmental Impact Statement (DEIS) for the Herbert Hoover Dike Dam Safety Modification Study – Lake Okeechobee, Florida

Dear Ms. Auvenshine:

The United States Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the Herbert Hoover Dike Dam Safety Modification Study. We have no comments at this time.

Thank you for the opportunity to provide comments on this project. If you have questions, I can be reached via email at joyce_stanley@ios.doi.gov or at (404) 331-4524.

Sincerely,

Joyce Stanley, MPA
Regional Environmental Protection Specialist

cc: Christine Willis – FWS
Gary Lecain - USGS
Anita Barnett – NPS
Chester McGhee – BIA
OEPC – WASH

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Richard B. Russell Federal Building
75 Ted Turner Drive, S.W., Suite 1144
Atlanta, Georgia 30303

ER 15/0711
9043.1

February 22, 2016

Stacie Auvenshine
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: Comments for the Notice of Availability of Draft Environmental Impact Statement (DEIS) for the Herbert Hoover Dike Dam Safety Modification Study – Lake Okeechobee, Florida

Dear Mr. Auvenshine:

The U.S. Department of the Interior (Department) has reviewed the Notice of Availability of Draft Environmental Impact Statement for the Herbert Hoover Dike Dam (HHD) Safety Modification Study. We offer the following comments.

The Department has a long history of coordination with the Army Corps of Engineers, Jacksonville District (Corps) concerning the rehabilitation of and all associated work at HHD. The Department previously provided a Final Fish and Wildlife Coordination Act Report (FWCAR) for Reach 1 dated December 20, 2001, for the 2000 HHD Major Rehabilitation Evaluation Report, and supplemental FWCAR's for HHD rehabilitation in Reach 1 dated March 4, 2003, and March 8, 2004 (Reach 1A) for previous HHD rehabilitation work. We have provided several supplemental FWCAR's for work on the HHD and several related culvert replacements. In January 2014, the Department met with the Corps to discuss the DSMS and an accompanying FWCAR. Most recently, the Department provided a Draft Interim FWCAR for the HHD DSMS dated July 14, 2014. These are just some of the highlights of our continued cooperation with the Corps in assuring protection of fish and wildlife in accordance with the Fish and Wildlife Coordination Act, Migratory Bird Treaty Act, and section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

We will assess the need for a more detailed and comprehensive report after review of the Corps Draft EIS describing the planning process, comparison of alternatives, selection of the Tentatively Selected Plan (TSP), and construction associated with the TSP. Upon completion

and receipt of the Final EIS, the Department will further assess potential impacts associated with the selected plan and, if needed, prepare a Final FWCAR.

As stated in the Draft EIS, the Corps has initiated consultation with the Department in accordance with the provisions of Section 7 of the Endangered Species Act, as amended. In the initiation package of information/data submitted to the Department (dated December 24, 2015), the Corps (and its contractors) commits to avoiding, minimizing, or mitigating for adverse effects of the Tentatively Selected Plan to the greatest extent possible in both the planning and construction phases of the project. Monitoring of listed species identified to occur within the HHD DSMS will be addressed with continuing communication with the Department. Construction will span over multiple years, and design plans have not currently been established for each segment, therefore, consultation with the Department will continue as construction proceeds in each segment of the HHD. Department conservation measures and guidelines for all threatened and endangered species will be included in the construction/contract specifications.

Specific Comments

Page x, List of Figures:

> Figure 3-8. Caracara nests and observations (from 1992-2014) around Lake Okeechobee. Source: USFWS 2015 – date should be 2014.
> Figure 3-9. Snail Kite Critical Habitat - no source given for this information; source should be USFWS 2014.
> Figure 3-10. Snail kite nest locations from 2010-2015 (*active nests only). Source: USFWS 2015 – date should be 2014.
> Figure 3-11. Wood stork colonies (2005-2015) near HHD and Lake Okeechobee. Source: USFWS 2015 – date should be 2014.
> Figure 3-12. Florida panther zones in South Florida – no source given for this figure; source should be USFWS 2014.

Page 3-24, Under 3.8 THREATENED AND ENDANGERED SPECIES, last sentence of paragraph, sentence states – "Additional detail can also be found in the USFWS draft Fish and Wildlife Coordination Act Report (CAR) included in Appendix E." The sentence should state "…can also be found in the Draft Interim Fish and Wildlife Coordination Act Report...." and should include a date of 2014.

Page 3-27: Cites "USFWS produced map with a date of 2015." Should have a date of 2014 if the source of this map is the U.S. Fish and Wildlife Service's 2014 Draft Interim FWCAR.

Page 3-28: States "Figure 3-8. Caracara nests and observations (from 1992-2014) around Lake Okeechobee. Source: USFWS 2015." The date for the source should be 2014.

Page 3-31: States "Figure 3-10. Snail kite nest locations from 2010-2015 (*active nests only). Source: USFWS 2015." The date should be 2014 if the source is the 2014 Draft Interim FWCAR. If not the source, please provide the source of the map in references cited.

Page 3-34: States "Figure 3-11. Wood stork colonies (2005-2015) near HHD and Lake Okeechobee. Source: USFWS 2015." The date should be 2014 if the source is the 2014 Draft Interim FWCAR. If not the source, please provide the source of the map in references cited.

Page 3-35: States "Figure 3-12. Florida panther zones in South Florida." The source of the figure should be included with the figure description.

Page 3-36: States "However, the principal habitat in the area for these wading birds is within the littoral zone of Lake Okeechobee (USFWS 2001)." The USFWS 2001 reference is not included in the list of references for the Draft EIS. This reference should be provided in Section 9. References of the Draft EIS.

Page 6-1: Under 6.0 ENVIRONMENTAL COMPLIANCE**;** ENDANGERED SPECIES ACT OF 1973, AS AMENDED, it states the following: "The Corps sent a letter to the USFWS on December 24, 2015 that provided an opinion that the project remains "not likely to adversely affect" threatened and endangered species." This sentence should state the following: The Corps sent a letter to the USFWS on December 24, 2015 that provided a determination that the project "may affect, but not adversely affect" threatened and endangered species provided conservation measures outlined in the 2014 Draft Interim Coordination Act Report are implemented and adhered to during preconstruction, construction, and after construction phases of the project.

Page 9-3: The following reference is included twice in the list of references cited (Section 9.0 References): USFWS. (2013, November 25). Retrieved from Species Profile: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=C044#candidate

Under Section 9.0 References, the 2014 U.S. Fish and Wildlife Service Draft Interim Coordination Act Report (South Florida Ecological Services Office, Vero Beach, Florida) cited several times in the document and included in the Appendices for the Draft EIS, should be included as a cited reference.

Thank you for the opportunity to provide comments. If you have questions, I can be reached on (404) 331-4524 or via email at joyce_stanley@ios.doi.gov.

Sincerely,

Joyce Stanley, MPA
Regional Environmental Protection Specialist

cc: Christine Willis – FWS
Gary LeGain - USGS
Anita Barnett – NPS
Chester McGhee – BIA
OEPC – WASH

SEMINOLE TRIBE OF FLORIDA

CHERISE MAPLES
Environmental Resource Management Department Director

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VIA U.S. MAIL
AND ELECTRONIC MAIL

February 19, 2016

Ms. Kimberley Taplin
Tribal Liaison
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Herbert Hoover Dike Dam Safety Modification Study Draft Environmental Impact Statement – December 2015

Dear Ms. Taplin:

The Seminole Tribe of Florida ("Seminole Tribe") is in receipt of the Draft Environmental Impact Statement ("DEIS") for the Herbert Hoover Dike (HHD) Dam Safety Modification Study ("DSMS") dated December 2015. We appreciate the opportunity to consult with the U.S. Army Corps of Engineers ("USACE") on the DEIS. The National Environmental Policy Act ("NEPA") requires the USACE to consult with the Seminole Tribe in order to ensure that the federal action agency takes a "hard look" at all the potential impacts to the human environment; including those that are of interest to the Seminole Tribe. Unlike the consultation requirements under NEPA, formal consultation under the USACE's trust responsibility requires the USACE to act "with good faith and utter loyalty to the [Seminole Tribe's] best interests." Consequently, the USACE's trust obligation does require a substantive outcome; namely, one that is in the best interests of the Seminole Tribe.

Environmental and Water Related Concerns

A. Lake Okeechobee Regulation Schedule (LORS)

The Seminole Tribe relies on the delivery of water from Lake Okeechobee for its water rights entitlements for the Brighton Seminole Indian Reservation and the Big Cypress Seminole

Indian Reservation. While the DEIS does not address and study potential operational changes for Lake Okeechobee, the DEIS does discuss the possibility of a regulation schedule change in the future if the proposed modifications address the dam safety concerns. The Seminole Tribe was pleased to hear in the consultation meeting with the USACE and again in the public hearings that the USACE had on the DEIS that the USACE will make incremental changes in operations to store more water in the Lake as you make the dike repairs. As the USACE knows the Seminole Tribe was very concerned with the prior changes to the LORS to store less water in the Lake. The LORS was to have been for a temporary time period which has extended long beyond the anticipated timeframe. The reduction of Lake levels puts the Seminole Tribe's water rights at significant risk especially during water shortage events. The Seminole Tribe supports the initiation of NEPA for a lake regulation schedule modification as soon as possible and to proceed while the HHD construction occurs so that the storage capacity of the Lake can be made available contemporaneously with dike repairs.

The Seminole Tribe requests that the USACE initiate formal government-to-government consultation when appropriate with the Tribe to discuss such a regulation schedule change so that there can be a full understanding of the Seminole Tribe's interests. Some of the issues to be addressed in subsequent consultation include: the nature of the incremental operational changes that could be made by the USACE and timeframe for same; and the nature and timing of a full regulation schedule modification.

B. Access

The Seminole Tribe's members have historically utilized the study area for the HHD DEIS for hunting, fishing, and recreational activities. While the DEIS recognizes these existing uses and states that access will continue it is not clear how that will be coordinated and provided for during construction. The Seminole Tribe is also concerned with the statement in the DEIS that "...the floodwall would reduce aesthetics and would potentially change where access to fishing would occur around the structures." The Seminole Tribe would like to engage in further consultation with the USACE in order to understand this access issue better so that we can collaboratively develop measures to ensure access for Seminole Tribal members.

C. Consultation

The Seminole Tribe appreciates the USACE's consultation with the Seminole Tribe on the HHD DEIS. We respectfully request that formal consultation on the construction related impacts to tribal access continue in a timely fashion. The Seminole Tribe also looks forward to consultation on the incremental operational changes and the potential for a LORS schedule modification. The Seminole Tribe is committed to its consultation relationship with the USACE and looks forward to this project being funded so that the USACE can move forward with the project and re-establish the storage that has been lost in Lake Okeechobee.

The Seminole Tribe understands that these consultations are an on-going process. The Seminole Tribe appreciates your consideration of the foregoing comments, and we look forward

to working through these issues with the USACE. The Seminole Tribe's comments from the Tribal Historic Preservation Office will be submitted separately.

Should there be any questions, please do not hesitate to call me at (954) 965-4380.

Sincerely,

Cherise Maples, Director

Environmental Resource Management Department

Cc: James E. Billie, Chairman
Jim Shore, General Counsel

To whom it may concern,

The draft EIS on the Herbet Hoover Dike is an assessment of a much *needed* action. Public safety is, as stated, the number one concern of many, including the Army Corps of Engineers. However, there are a couple of discrepancies that *must* be addressed before the plan is put into action.

In the federal consistency statement section (Appendix D) for Chapter 370, Living Saltwater Resources, it is stated that, "The proposed project is located inland and would have no effect on saltwater resources either directly or indirectly through discharge downstreams." It is highly unlikely, if not one hundred percent unlikely, to be able to claim the knowledge of such a project is so great that the Army Corps of Engineers can foresee every indirect effect from every aspect of the restoration of the Herbert Hoover Dike. It is *not* possible to have an indirect effect on anything in this world. Further research into indirect effects of inland construction into marine zones is obviously needed, since any and all fluid links to the ocean.

Secondly, along the same lines, in Appendix D, Chapter 258, State Parks and Aquatic Preserves it is stated, "… This chapter is not applicable." In Chapter 258, it states that the federal action (Herbert Hoover Dike) must be consistent with any direct or indirect adverse effects of park property, natural resources, park programs, or management operations. It is baseless to claim that a construction restoration of the Dike will, again, not have *any* indirect effects on any of the mentioned park and aquatic preserve aspects. Everything is connected indirectly and more research into how construction sites may impact communities/ecosystems far and near is needed.

Respectfully,

Drew Mertzlufft

Everglades Restoration Program
PO Box 707
Lorida, FL 33857
Tel: 863-655-1831
PGray@Audubon.org
http://fl.audubon.org/

Stacie Auvenshine
US Army Corps of Engineers
PO Box 4970
Jacksonville, FL 32232-0019

Submitted by email

February 23, 2016

Dear Ms. Auvenshine:

This letter constitutes Audubon Florida's comments on the December 2015 DRAFT Environmental Impact Statement for the Herbert Hoover Dike Dam Safety Modification Study (DSMS). Audubon has had full time staff working on Lake Okeechobee since 1936 and have been stewards of 28,250 acres of Wildlife Sanctuaries inside the Herbert Hoover Dike (HHD); designated by the Governor and Cabinet in 1938. We support the Corps' selected alternative for remediating the HHD.

Due to its size and location, Lake Okeechobee is probably the single most important water feature in south Florida. All flow from the 2.6 million acre Northern Everglades watershed passes through the Lake on its way south. The Lake furnishes flood protection and water supply for humans and downstream ecosystems. It supports fisheries and wildlife habitat, navigation across the state and a tourism-based economy. The Lake also strongly influences rain and temperature patterns in central Florida. Recent concerns about the safety of the HHD however, have resulted in water management decisions being made primarily for precautionary reasons, which have interfered with many of these functions. With the repair of the HHD, more options will be available and many of Lake Okeechobee's values can be restored and maximized.

Once remediation is complete, occasional higher water levels may be permissible in the Lake. We support the Corps' intention not to modify the LORS schedule until the entire remediation effort is finished because allowing higher levels before the HHD were safe would be imprudent. However, once a new operating schedule is feasible, we caution that higher water levels create new issues.

The "Stage envelope" performance measure for the Lake quantifies how often water levels are in an ideal range, which is considered within 6 inches of a dry season low of 12.5 feet and a wet season high of 15.5 feet. From 1978 until the early 2000s, water levels were maintained higher than the stage envelope most of the time and proved disastrous to the Lake's biota, and to estuaries who suffered massive releases from an often too-deep lake. The chronically deep levels also hastened the erosion of the HHD and any future schedule will have to weigh impacts of deep levels on the Lake, Estuaries, and the HHD itself.

Although chronically deep levels are a concern, occasional deep water during wet period emergencies, could be a future part of management. To a point, the lake marshes and biota can withstand temporary

deep water events with manageable harm. Were the HHD safer today, the Corps could contemplate reducing or halting the current disastrous releases to the estuaries for a period of time to benefit them, and resume releases later. With the HHD in its present condition, such an option is not feasible and is an example of how a safer Dike can allow improved management.

Acute high water events bring up the most important point about post-remediation HHD safety. Lake Okeechobee does not have nearly enough outlet capacity to keep up with inflows, meaning Lake levels can rise almost uncontrollably. The DSMS noted that LORS would allow a lake stage of 22.8 ft (NGVD29) in a peak SPF, which could be a threat even to a remediated Dike. In short, even when HHD repairs are complete, large inflow events will remain a concern for HHD safety.

In the long term, the best way to reduce the threat of storms overwhelming the remediated HHD is to build large amounts of storage capacity outside of Lake Okeechobee, and the conveyance capacity needed to utilize it quickly. Building such infrastructure is what the Comprehensive Everglades Restoration Plan was designed to do. CERP itself is beyond the scope of the DSMS, but will be an indispensable component to the future safety of the HHD. Audubon pledges to support efforts at the national and state levels to help the Corps and its partners make south Florida as safe and functional as possible.

Thank you for this opportunity to comment.

Sincerely,

Science Coordinator
Everglades Restoration Program

GLADES SUGAR HOUSE

Sugar Cane Growers Cooperative of Florida

POST OFFICE BOX 666

BELLE GLADE, FLORIDA

33430-0666

February 23, 2016

VIA E-MAIL AND U.S. MAIL

Ms. Stacie Auvenshire
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Sugar Cane Growers Cooperative of Florida's Submittal of Comments on "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) drafted by the Department of the Army; U. S. Army Corps of Engineers, Jacksonville District

Dear Ms. Auvenshire:

Sugar Cane Growers Cooperative of Florida is an interested and affected stakeholder in the issues relating to Lake Okeechobee and the rehabilitation of the Herbert Hoover Dike (HHD). The Cooperative was founded in 1960 and is comprised of 45 grower-owners who grow sugarcane on approximately 75,000 acres of land in the Everglades Agricultural Area (EAA) south and east of Lake Okeechobee. The primary functions of the Cooperative are the harvesting, transporting and processing of sugarcane and the marketing of raw sugar to one of our co-owned sugar refineries. Our processing facility is located in Belle Glade and employs over 550 people during the harvest season with an annual payroll of $30 million and an economic impact of $285 million. The Cooperative is Belle Glade's largest single employer, thus has a special interest in Lake Okeechobee and its associated operations.

Additionally, many of our grower-owners rotate their crops with winter vegetable, leaf and rice crops. We are proud to be part of the $3 billion agricultural industry in the EAA. These are high value, vertically-integrated agricultural operations that include four raw sugar mills, two sugar refineries, a renewable power plant and eight fresh market vegetable packing houses. This region

Telephone (561) 996-5556

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is the nation's top producer of sugarcane, sweet corn, winter leaf crops, radishes and number two in winter vegetables.

Our growers rely on Lake Okeechobee for flood protection and water supply. The integrity of the HHD is of paramount importance to us since we live and conduct our business around the rim of the Lake. We encourage the Corps of Engineers' to expeditiously complete the rehabilitation of the HHD and concurrently evaluate the flexibility available within the existing Lake Regulation Schedule (LORS-08) to safely store more water in the lake to prevent unwanted releases to coastal estuaries and assure adequate water supply for the built and natural environments.

When The LORS-08 regulation schedule was adopted, it was characterized as an interim schedule that was anticipated to be in place while the most vulnerable sections of the levee were rehabilitated. This has been substantially completed with the 21 miles of cutoff wall and culvert replacements. The public was led to believe that an updated Lake regulation schedule would be adopted as soon as HHD repairs allowed, to restore water supply to EAA users to a one in ten year level of service. LORS-08 diminished our level of service to a one and six year level of service. When Congress passed WRDA 2000 it included the Savings Clause that promised the level of service for water supply and flood protection as of Dec. 11, 2000 would not be diminished due to the implementation of components of the Comprehensive Everglades Restoration Plan including adjustments to the Lake regulation schedule.

Given these facts, we presume that the structural design of the HHD rehabilitation Tentatively Selected Plan will provide the Dike with the integrity to raise lake stages to more historic levels, rather than having to undergo another time consuming Major Modification Report study effort and request a statement be included in the HHD EIS to this effect.

We applaud the Corps of Engineers commitment to undertake parallel paths and initiate the process of revising the Lake Regulation Schedule in 2020 concurrent with constructing the cutoff wall in Zone B between Lake Harbor and Moore Haven so that the new Lake regulation schedule can be implemented as soon as possible.

Lake Okeechobee is the central feature in the entire Central and South Florida Flood Control project. Its integrity is essential for all upstream and downstream regions of the Greater Everglades ecosystem to function properly.

Please include this letter into the administrative record for the HHD EIS. We incorporate by reference the comment letters submitted by the Florida Department of Agriculture and Consumer Services, Palm Beach County, EAA Environemntal Protection District, and by the Gunster Law Firm on behalf of U. S. Sugar Corporation.

Thank you for accepting our comments in support of completing the rehabilitation of the HHD expeditiously while concurrently looking at flexibility to store more water under LORS-08 and conducting a study to modify the lake regulation schedule. We welcome the opportunity to participate in future discussions on these important issues.

Sincerely,

Barbara J. Miedema
Vice President, Public Affairs & Communicatons

BJM:swd

cc: South Florida Water Management District – Mr. Peter Antonacci, Executive Director
South Florida Water Management District – Mr. Lennart Lindahl, Assistant Executive Director
South Florida Water Management District – Mr. Daniel O'Keefe, Governing Board Chairman
South Florida Water Management District – Mr. Brian Accardo, Esq., General Counsel
South Florida Water Management District – Mr. Kirk Burns, Office of Counsel
Florida Department of Environmental Protection – Mr. Drew Bartlett
Florida Department of Agriculture and Consumer Services – Mr. Steve Dwindell
U.S. Army Corps of Engineers – Mr. Timothy Murphy
U.S. Army Corps of Engineers – LTC Jennifer Reynolds

SEMINOLE TRIBE OF FLORIDA

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Environmental Resource Management Department Director

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VIA U.S. MAIL
AND ELECTRONIC MAIL

February 19, 2016

Ms. Kimberley Taplin
Tribal Liaison
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Herbert Hoover Dike Dam Safety Modification Study Draft Environmental Impact Statement – December 2015

Dear Ms. Taplin:

The Seminole Tribe of Florida ("Seminole Tribe") is in receipt of the Draft Environmental Impact Statement ("DEIS") for the Herbert Hoover Dike (HHD) Dam Safety Modification Study ("DSMS") dated December 2015. We appreciate the opportunity to consult with the U.S. Army Corps of Engineers ("USACE") on the DEIS. The National Environmental Policy Act ("NEPA") requires the USACE to consult with the Seminole Tribe in order to ensure that the federal action agency takes a "hard look" at all the potential impacts to the human environment; including those that are of interest to the Seminole Tribe. Unlike the consultation requirements under NEPA, formal consultation under the USACE's trust responsibility requires the USACE to act "with good faith and utter loyalty to the [Seminole Tribe's] best interests." Consequently, the USACE's trust obligation does require a substantive outcome; namely, one that is in the best interests of the Seminole Tribe.

Environmental and Water Related Concerns

A. Lake Okeechobee Regulation Schedule (LORS)

The Seminole Tribe relies on the delivery of water from Lake Okeechobee for its water rights entitlements for the Brighton Seminole Indian Reservation and the Big Cypress Seminole

Indian Reservation. While the DEIS does not address and study potential operational changes for Lake Okeechobee, the DEIS does discuss the possibility of a regulation schedule change in the future if the proposed modifications address the dam safety concerns. The Seminole Tribe was pleased to hear in the consultation meeting with the USACE and again in the public hearings that the USACE had on the DEIS that the USACE will make incremental changes in operations to store more water in the Lake as you make the dike repairs. As the USACE knows the Seminole Tribe was very concerned with the prior changes to the LORS to store less water in the Lake. The LORS was to have been for a temporary time period which has extended long beyond the anticipated timeframe. The reduction of Lake levels puts the Seminole Tribe's water rights at significant risk especially during water shortage events. The Seminole Tribe supports the initiation of NEPA for a lake regulation schedule modification as soon as possible and to proceed while the HHD construction occurs so that the storage capacity of the Lake can be made available contemporaneously with dike repairs.

The Seminole Tribe requests that the USACE initiate formal government-to-government consultation when appropriate with the Tribe to discuss such a regulation schedule change so that there can be a full understanding of the Seminole Tribe's interests. Some of the issues to be addressed in subsequent consultation include: the nature of the incremental operational changes that could be made by the USACE and timeframe for same; and the nature and timing of a full regulation schedule modification.

B. Access

The Seminole Tribe's members have historically utilized the study area for the HHD DEIS for hunting, fishing, and recreational activities. While the DEIS recognizes these existing uses and states that access will continue it is not clear how that will be coordinated and provided for during construction. The Seminole Tribe is also concerned with the statement in the DEIS that "...the floodwall would reduce aesthetics and would potentially change where access to fishing would occur around the structures." The Seminole Tribe would like to engage in further consultation with the USACE in order to understand this access issue better so that we can collaboratively develop measures to ensure access for Seminole Tribal members.

C. Consultation

The Seminole Tribe appreciates the USACE's consultation with the Seminole Tribe on the HHD DEIS. We respectfully request that formal consultation on the construction related impacts to tribal access continue in a timely fashion. The Seminole Tribe also looks forward to consultation on the incremental operational changes and the potential for a LORS schedule modification. The Seminole Tribe is committed to its consultation relationship with the USACE and looks forward to this project being funded so that the USACE can move forward with the project and re-establish the storage that has been lost in Lake Okeechobee.

The Seminole Tribe understands that these consultations are an on-going process. The Seminole Tribe appreciates your consideration of the foregoing comments, and we look forward

to working through these issues with the USACE. The Seminole Tribe's comments from the Tribal Historic Preservation Office will be submitted separately.

Should there be any questions, please do not hesitate to call me at (954) 965-4380.

Sincerely,

Cherise Maples, Director

Environmental Resource Management Department

Cc: James E. Billie, Chairman
Jim Shore, General Counsel

Auvenshine, Stacie SAJ

From: Joshua Wilson <jgwilson4228@eagle.fgcu.edu>
Sent: Tuesday, February 23, 2016 4:12 PM
To: HHDEnvironment, SAJ
Cc: Gable, Frank
Subject: [EXTERNAL] Public Comment

To whom it may concern,

Water quality is a serious concern in the southern parts of Florida. Reduction of risk in flooding that negatively impacts the environment and life from the breach of HHD is crucial. It will not only effect animals and the environment but humans as well. With the research I am involved in, water quality in the area has made changes to the results we obtain meaning we need to fix our problems in south Florida quickly.

Sincerely,

Concerned citizen

Auvenshine, Stacie SAJ

From: kristenmarsh@att.net
Sent: Monday, February 22, 2016 9:32 PM
To: HHDEnvironment, SAJ; Gable, Frank
Subject: [EXTERNAL] Public Comment on Herbert Hoover Dike Dam Safety Modification EIS

Are the current methods in place holding the waters of Lake Okeechobee at a hurricane rating of category five? If not, could repairs/adjustments also be made to the structures to withstand a powerful hurricane so that an incident like Hurricane Katrina in New Orleans can be avoided?

Regarding the release of water from Lake Okeechobee to SW Florida through the Caloosahatchee River, do you have methods of purifying the water of pollutants? Water quality has greatly diminished and the overwhelming amount of freshwater being released into the SW estuaries is disrupting all sorts of aquatic organisms. Eventual restoration of water flow to its historic pattern of slowly making its way through the river of grass, should be an ultimate goal.

I do believe that repairs need to be made to the Herbert Hoover dike, since this structure holds large amounts of water, and if a breach occurs we have a real environmental crisis to deal with. Thank you. Sincerely,

Kristen Marsh

Sent from Windows Mail

LAKE WORTH DRAINAGE DISTRICT
13081 MILITARY TRAIL
DELRAY BEACH, FLORIDA 33484-1105

February 22, 2016

VIA E-MAIL AND U.S. MAIL

Stacie Auvenshine
U.S. Army Corps of Engineers
PO Box 4970
Jacksonville, Florida 32232-0019

Subject: Comments on the U.S. Army Corps of Engineers, Jacksonville District, "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study," dated December 15, 2015

Dear Ms. Auvenshine:

This letter is written on behalf of the Lake Worth Drainage District (LWDD) for the purpose of providing comments on the U.S. Army Corps of Engineers' (Corps) Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study (draft HHD EIS).

The Lake Worth Drainage District plays a vital role in managing south Florida's water supplies. Created in 1915, LWDD is an independent taxing district of the State of Florida that operates over 500 miles of canals and 20 major water control structures located in central and south Palm Beach County. This extensive canal network provides flood control and water supply for more than 750,000 residents and 10,000 acres of agricultural land. LWDD is located south and east of Lake Okeechobee, so risk of HHD failure bears directly upon LWDD and its infrastructure. In addition to concerns regarding HHD failure, LWDD relies on Lake Okeechobee for water supply. Hence, both of LWDD's key missions, flood control and water supply, are at the heart of LWDD's interest in timely and appropriate rehabilitation of the HHD.

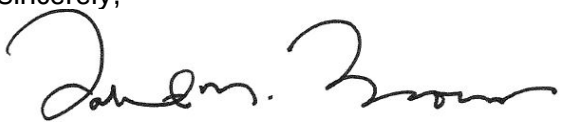
In the event of HHD failure, it is likely that the reconstruction effort necessary to return the dike to a safe condition could take several years. During this period, it is unlikely that water levels in the Lake could be managed near the elevations required to provide adequate supplemental water supply to the Lake Okeechobee Service Area and other areas dependent on the Lake for a portion of their supplemental water needs. This would leave the Arthur R. Marshall National Wildlife Refuge as the only available source of regional water supply to LWDD, thereby increasing the risk that insufficient regional water inflow to LWDD would severely reduce well field protection and supplemental irrigation supply for both agricultural and urban uses. Likewise, increased water demand on the Refuge, along with severely reduced base flow from Lake Okeechobee, could cause significant impacts to the Refuge.

While HHD repairs are underway, LWDD requests the Corps initiate and complete a Lake Okeechobee regulation schedule modification study. This action will enable the Corps to be poised to implement a new Lake regulation schedule at the earliest possible moment and in light of the rehabilitated HHD. LWDD has repeatedly expressed concern about the inadequacy of water supplies provided pursuant to the current Lake regulation schedule, 2008 LORS. LWDD provides surface water, largely from WCA 1 as replenished by Lake Okeechobee during dry times, to its irrigation water users. Also, LWDD's canal network recharges the Surficial Aquifer in coastal Palm Beach County to maintain ground water levels, help prevent inland migration of the saltwater interface, and recharge public water supply utility wellfields. In 2007, LWDD commented on the Corps' draft Lake regulation schedule environmental impact study and its potential to exacerbate water shortages. Additional details concerning water shortages and use of permanent forward pumps to relieve supply problems at low Lake levels resulting from the then proposed regulation schedule were requested at that time. This regulation schedule, now known as 2008 LORS, was approved as an interim schedule nearly eight years ago. The 2008 LORS does not assure LWDD of adequate water supply to meet its above stated missions, thus it should be replaced with a new regulation schedule as soon as possible.

Additionally, the LWDD requests the Corps to operate Lake Okeechobee in light of the HHD repairs that have already occurred. The 2008 LORS recognized the burden this schedule placed on water supply interests and assured stakeholders of the potential to operate the Lake so as to improve storage as HHD repairs progressed. To date, the Corps has not undertaken operational changes. LWDD requests the Corps immediately implement these changes. Storing more water in Lake Okeechobee will benefit water supply users and will also provide much needed relief to the estuaries and even benefit the Lake's ecology.

In closing, LWDD appreciates the Corps' on-going effort to rehabilitate the HHD and recognizes the magnitude of this project. However, swift completion of HHD repairs is urgently needed, as is implementing a new Lake regulation schedule and taking advantage of improved storage made possible by the repairs accomplished to date. Your consideration of LWDD's concerns is appreciated.

Sincerely,



Robert M. Brown
Executive Director
Lake Worth Drainage District

RMB

C: James M. Alderman, President, LWDD Board of Supervisors
Harry Raucher, LWDD Board Supervisor and WRAC Representative
Mark A. Perry, LWDD Counsel

Auvenshine, Stacie SAJ

From: Vieira, Mark <Mark.Vieira@fema.dhs.gov>
Sent: Tuesday, January 19, 2016 8:08 AM
To: HHDEnvironment, SAJ
Subject: [EXTERNAL] Comments

HERBERT HOOVER DIKE DAM SAFETY MODIFICATION STUDY

Page 7-1 Federal Emergency Management Administration should be Agency and not Administration.

Mark A. Vieira, P.E.

FEMA Region IV

Mitigation Div, Risk Analysis Br.

3003 Chamblee-Tucker Rd

Atlanta GA 30341

770-220-5450

mark.vieira@fema.dhs.gov

Auvenshine, Stacie SAJ

From: Physics Dude <physic.dude@gmail.com>
Sent: Thursday, February 18, 2016 6:12 PM
To: HHDEnvironment, SAJ
Subject: [EXTERNAL] HHD Draft EIS comments - West coast water quality impacts

Hello,

In reviewing the Draft EIS for the Herbert Hoover Dike Safety Modification, it was made apparent to the casual observer that little to no information was given in regards to the water quality in areas closer to the oceanic or gulf shores that receive discharges from Lake Okeechobee. Section 3.5 - Water Quality only seems to focus on the water quality of the lake itself and its immediately surrounding water systems.

In particular, one may say that the Caloosahatchee River (C-43) is vital to several counties in Fort Myers for its role in the natural environment as well as with the communities that surround the river. A change in the rate that the water flows through this area or how much pollutants/nutrients it carries may prove to be a significant risk for a quite large population.

Might you be able to share or direct us to more information regarding this topic of how distant downstream areas will be impacted? Please consider discussing this further.

Many thanks,

Michael H.

Auvenshine, Stacie SAJ

From: McLeod, Michelle <MMcLeod@gunster.com>
Sent: Tuesday, February 23, 2016 4:37 PM
To: HHDEnvironment, SAJ; Auvenshine, Stacie SAJ
Cc: Phillips, Luna
Subject: [EXTERNAL] US Sugar's Comment Letter to Draft Environ. Impact Statement on Herbert Hoover Dike Dam Safety Mod. Study
Attachments: 2016-02-23 USSC HHD Comment Letter to Corps (S. Auvenshine).PDF; New folder.zip

Good afternoon Ms. Auvenshine,

On behalf of the United States Sugar Corporation (USSC), please accept the attached comment letter dated February 23, 2016, including the zip file/folder containing Exhibit A, Exhibit B and the referenced documents to supplement the Record, as USSC's electronic submittal related to Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study, December 15,2015. Please review and process these comments accordingly.

If you have any questions do not hesitate to contact Luna Phillips at lphillips@gunster.com <mailto:lphillips@gunster.com> or 954-712-1478.

Thank you,

Michelle

Best regards,

M. McLeod

Michelle A. McLeod
Legal Secretary to Rick J. Burgess, Esq., Luna E. Phillips, Esq. & Deborah K. Madden, Esq.

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GUNSTER
FLORIDA'S LAW FIRM FOR BUSINESS

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February 23, 2016

VIA E-MAIL ONLY
(HHDEnvironment@usace.army.mil AND stacie.j.auvenshine@usace.army.mil)

Department of the Army
Attention: Stacie Auvenshine
Jacksonville District Corps of Engineers
U.S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-8175

RE: United States Sugar Corporation's Submittal of Comments on "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study"

Dear Ms. Auvenshine:

This firm represents the United States Sugar Corporation (USSC), an interested stakeholder in issues related to the management of Lake Okeechobee (Lake), including the Herbert Hoover Dike (HHD) repairs. On December 24, 2015, the Environmental Protection Agency (EPA) published notice in the Federal Register of the U.S. Army Corps of Engineers (USACE) December 2015, "Draft Environmental Impact Statement - Herbert Hoover Dike Dam Safety Modification Study (DSMS)" (HHD Draft EIS). The Federal Register notice opened a 60-day public comment period on the HHD Draft EIS, ending on February 23, 2016. Please accept this letter and its attachments as USSC's comments on the HHD Draft EIS.

USSC Is an Affected Stakeholder

USSC's substantial interests are affected by the DSMS and the HHD Draft EIS. USSC owns and operates over 215,000 acres of agricultural lands in Florida; many of these acres are located adjacent to Lake Okeechobee. USSC produces sugar cane and refined cane sugar and is one of Florida's major producers of oranges and orange juice products. Dependent upon weather, growing conditions and federal market allocations, USSC produces over 7 million tons of sugar cane each year, which equates to approximately 800,000 tons of sugar each year, providing nearly 8 percent of the sugar produced in America.

USSC's farming operations in the EAA depend on the water supply and flood control functions of the Central and Southern Florida Flood Control Project (C&SF Project). Lake Okeechobee is an essential water supply source for agricultural operations. The strength of the

HHD and its ability to withstand conditions, not breach, and to store water for water supply purposes, similar to historic operational levels, is of utmost importance to farmers in the Lake Okeechobee Service Area. USSC has a substantial interest in the timely and robust repair of the HHD.

Continue To Expeditiously Repair the HHD

Continued, expeditious repair of the HHD to address the public's health and safety is of utmost importance. USSC urges the USACE to proceed as promptly as possible while addressing the concerns noted in this comment letter.

As the alternative design for the HHD rehabilitation is selected, it is appropriate to consider attaining the immediate goal of structural integrity, while assuring Lake Okeechobee operations meet Congressional and USACE commitments for the C&SF Project, as discussed below. We believe these commitments can and should be achieved concurrently with the repairs. Our comments request that the Corps integrate identification and implementation of HHD repairs with concurrent evaluations of how the HHD repairs will further all C&SF Project purposes.

Repaired HHD Must Continue to Serve All C&SF Project Purposes for Lake Okeechobee

We recognize that the HHD Draft EIS and DSMS do not evaluate potential water supply or storage implications nor do they identify operational changes to store additional water in Lake Okeechobee based on the TSP. These matters will be the subject of a Lake regulation schedule modification study. However, it is appropriate now for the USACE to clearly state and confirm the repaired HHD's potential operational capabilities and commit to address the integrally related purposes of the HHD through a lake regulation schedule modification study that proceeds concurrent with the HHD repairs.

The stability of the dike directly impacts the Corps' capability to meet the C&SF Project purposes, as established by Congress and the USACE's decisional documents approved since 1948. Lake Okeechobee serves multiple project purposes, including water supply and fish and wildlife. Water supply and fish and wildlife purposes include water for utilities, the Stormwater Treatment Areas (STAs), residential and agricultural lands within the Lower East Coast and the Lake Okeechobee Service Area, Lake Worth Drainage District, Water Conservation Areas, Everglades National Park and Seminole Tribe of Florida.

Moreover, the Comprehensive Everglades Restoration Plan (CERP) is a holistic framework and guide for modifications to the C&SF Project to achieve restoration, protection and preservation of the Everglades ecosystem, including Lake Okeechobee, while providing for other water related needs of the system. The foundational principles for implementation of CERP stress the need to address operational changes in the C&SF Project system holistically, as an integral part of CERP, and not piecemeal through non-CERP projects. *See* WRDA 2000;

Sections 6.4.2, 6.4.13 Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement April 1999.

To this end, we request the USACE clearly state the potential storage capabilities of the repaired HHD and also provide written confirmation that the HHD Draft EIS and DSMS do not alter the Congressionally authorized C&SF Project purposes or other previous commitments, such as CERP and its enabling legislation. As part of this commitment, please clarify that, consistent with LORS 2008 assurances, the use of LORS 2008 in the modeling for the "no action" and other dike repair alternatives, including the TSP, does not preempt the previous USACE commitments to restore water storage in the Lake through an updated Lake schedule.

HHD Draft EIS Selected Alternative Must Ensure Successful CERP Implementation

USSC recognizes LORS 2008 was an interim Lake regulation schedule, necessitated by HHD stability concerns. This regulation schedule, however, substantially diminished water supply availability and does not meet the 1 in 10 level of water supply certainty. The CERP Savings Clause requires that existing legal sources of water supply (available in the year 2000 for agricultural and urban water supplies, fish and wildlife, Everglades National Park and Tribes) must not be eliminated or transferred until new sources of supply of comparable quantity and quality are provided.

The CERP Savings Clause was adopted to protect against long-term changes in water availability that only achieve some Project purposes, such as, flood protection and environmental protection, at the expense of other Project purposes, such as water supply. This is the Savings Clause "benchmark" that must be satisfied as CERP proceeds forward.

Returning to a 1 in 10 level of water supply performance is required by the CERP Savings Clause. This level of certainty should be the predicate for the proposed, modification to the Lake regulation schedule. It is critical that the USACE ensure its actions in determining the extent and timing of HHD repairs do not nullify this most fundamental precept - the CERP Savings Clause - as it forms the very foundation for CERP relied upon by the State of Florida in support of its decision to be local sponsor and partner in CERP implementation. We request written confirmation these expectations will be met by the repaired HHD infrastructure.

The USACE Should Conduct a Parallel Study to Modify the Lake Okeechobee Regulation Schedule

As the HHD rehabilitation alternative is selected and construction proceeds, it is essential that the USACE, in a contemporaneous and parallel effort, conduct a NEPA evaluation to establish a new Lake regulation schedule, predicated upon the repaired HHD infrastructure. This study should assess the capabilities of the C&SF Project, including the selected HHD alternative and reasonably anticipated Project-related infrastructure changes, to comprehensively serve all Project purposes. By undertaking a parallel Lake regulation schedule modification study, future

Lake operational capabilities can be evaluated in light of performance measures and alternatives. These steps will enable prompt implementation of a new Lake Okeechobee regulation schedule. This Lake regulation schedule modification study must also assess the ability of C&SF Project and Lake operations to meet the legislatively required CERP water supply assurances.

DSMS and HHD Draft EIS Dam Safety Risk Analysis Should Serve As the Risk Analysis for Updates to the Lake Okeechobee Regulation Schedule

The USACE's public presentations on this HHD Draft EIS contain the following statement: "Proposed revisions to the current LORS 2008 will require an updated risk evaluation and a future lake regulation study for informed decision making." *See* January 26, 2016 USACE Presentation, slide 23, bullet 2.

We question the need for an "updated risk evaluation" on the HHD, separate from this DSMS, as the selected Standard Performance Flood (SPF) evaluations apply a Lake stage of 24.7 NAVD88, and both LORS 2008 and RUN 25 produce peak SPF stages below this elevation. In light of these statements in the HHD Draft EIS, a NEPA analysis for the Lake regulation schedule modification should be the only process necessary prior to implementing a modified Lake Okeechobee regulation schedule.

We request the USACE to confirm in the HHD EIS that the proposed, structural changes to the HHD are sufficient to accommodate all previously existing Lake regulation schedules, such as the Run 25 or similar schedule.

Additionally, we request USACE include further explanation that, in light of these facts, no additional HHD risk analysis is needed before modifying the Lake regulation schedule.

The USACE Should Provide More Detailed Explanation of Revised Dike Evaluation Standards

Over time, USACE's dam safety evaluation standards have evolved. How are the revised standards for assessing dike safety and balancing economic considerations different from previous standards, particularly as to those identified in the LORS 2008 Final Supplemental Impact Statement for Reaches 1, 2 and 3? *See* LORS 2008 Final Supplemental Environmental Impact Statement November 2007 (FSEIS) at iv - v. While the HHD Draft EIS describes the new evaluation criteria, it is not possible to evaluate or analyze the practical implications of shifting from the standards used in the 2007 Environmental Assessment for HHD rehabilitation to current evaluation standards. This information is particularly relevant as the LORS 2008 FSEIS identifies HHD repairs as a "trigger" for Lake operational changes. How does the TSP compare to the repairs listed in the LORS 2008 FSEIS, noted above as "triggering" both interim operational improvements, and shifting to a new Lake regulation schedule? A chart comparing the LORS 2008 FSEIS terms associated with HHD repair with those used in the HHD Draft EIS is requested.

The USACE Should Implement Operational Flexibility Per LORS 2008

As an interim schedule, LORS 2008 manages Lake Okeechobee at lower levels than prior regulation schedules, in order to reduce structural risk to the HHD, while repairs are underway. This low regulation schedule, however, presents dramatically reduced performance as to other Project purposes, specifically, an increased risk of low Lake levels and associated adverse effects to water supply. Numerous stakeholders; including among others, the South Florida Water Management District, the Seminole Tribe of Florida, agricultural and various urban interests; expressed concern for the LORS 2008 risk to water supply.

To address the Lake's diminished water supply performance, per the temporary regulation schedule, the USACE's decisional documents made key assurances. LORS 2008 Record of Decision (ROD) and November 2007 FSEIS assured stakeholders that LORS 2008 was a short-term, interim schedule, necessary to respond to high Lake levels while HHD repairs were made. Further, the LORS 2008 ROD and FSEIS commit the USACE to incrementally improve water supply performance, as made possible by HHD infrastructure repairs. (ROD 5) The FSEIS provides a detailed explanation of specific dike repairs that would prompt the USACE to evaluate operational flexibility, within LORS 2008 and consistent with protection of health and safety, to provide additional water storage. The USACE commits:

> Pending completion of rehabilitation in Reaches 1, 2 or 3, as HHD rehabilitation progresses, the Corps will evaluate the capacity to operate the Lake in a manner to provide more water storage in conjunction with achieving other project purposes. The anticipated points at which the Corps will utilize the flexibility within the schedule [LORS 2008] consistent with protection of health safety and welfare to provide additional storage include, at a minimum, completion of filling of the toe ditch, construction of the seepage berm within the existing right of way in Reach 1, and equivalent dike improvements in Reaches 2 or 3, which are currently under design. Upon changed circumstances, the Corps will provide additional storage, consistent with technical analysis, that might result from higher lake elevations. The Corps can respond to changed circumstances by adjusting operations within LORS' operational flexibility or through schedule deviations. (FSEIS pp. iv – v)

Based on the recent USACE presentation and statements made at the January 2016 HHD public meetings, it appears the USACE intends to perform this assessment and take advantage of near-term opportunities to store additional water in the Lake. USSC urges completion of the necessary evaluation at the soonest possible time so that relief to supply and estuarine interests is swiftly provided. Additional storage in the Lake will benefit the Lake's ecology and water supply interests during drier years.

We have included a table of comments on the HHD Draft EIS, which is attached as Exhibit A and an index of documents to supplement the record for the HHD Draft EIS, which is attached as Exhibit B. The documents listed on the index are being provided via email.

Please include this letter and the attachments with the administrative record of USACE's file on the above referenced matter, and incorporate the entire LORS 2008 administrative record into the file on the above referenced matter.

USSC thanks the USACE for considering our comments and welcomes the opportunity to participate in further stakeholder input.

Sincerely,

Luna E. Phillips
On behalf of the Gunster Law Firm,
Attorneys for United States Sugar Corporation

LEP/mam

Attachments: **Exhibit A** - Table of Comments on "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) drafted by the Department of the Army; U.S. Army Corps of Engineers, Jacksonville District

Exhibit B - Index to the Documents to Supplement the Record on the "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) Drafted by the Department of the Army; U.S. Army Corps of Engineers, Jacksonville District

cc: Client
South Florida Water Management District – Mr. Peter Antonacci, Mr. Lennart Lindahl, and Brian Accardo, Esq.
Florida Department of Environmental Protection – Mr. Drew Bartlett
Florida Department of Agriculture and Consumer Services – Mr. Steve Dwinell
U.S. Army Corps of Engineers – Mr. Timothy Murphy and Lt. Col. Jennifer Reynolds

EXHIBIT A

Table of Comments on "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) drafted by the Department of the Army; U.S. Army Corps of Engineers, Jacksonville District

INTRODUCTION

The comments identified herein pertain to subjects not addressed in the USSC "draft HHD EIS" comment letter. As with the comment letter issues, we request the comments herein be integrated into relevant portions of the draft HHD EIS, the DSMS, and other appendices. Specific language provided in this attachment is suggested language for inclusion in the Final HHD EIS to replace existing language in the specified sections.

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
1.8 Related Projects SFWMD Restoration Strategies Project	Correct inaccurate statements consistent with SFWMD	Inaccurate statements regarding SFWMD Restoration Startegies Project should be corrected based on the February 11, 2016 letter from South Florida Water Management District to Florida State Clearinghouse, Department of Environmental Protection, "U.S. Army Corps of Engineers – Herbert Hoover Dike Dam Safety Modification Study Draft Environmental Impact Statement SAI# FL201601047515C" The following sentence should also be added to correct the existing statement on inflows to Lake Okeechobee due to Kissimmee River Restoration and Headwaters Revitalization: Inflows to Lake Okeechobee will not be reduced by implementation of the Kissimmee River Restoration projects.
1.9 Approvals	Correct inaccurate and outdated information; update based on Northern Everglades and Estuaries Protection Act (NEEPA)as amended in 2016	This section and others identified herein contain inaccurate and outdated references to outdated Florida water quality laws. Revisions to the Northern Everglades and Estuaries Protection Act (NEEPA) were enacted by the Florida Legislature in January 2016. Some suggested language is provided below and should be addressed in relevant water quality related sections throughout the EIS: : Nutrient loads within the Lake Okeechobee Basin are regulated under the Northern Everglades and Estuaries Protection Act (NEEPA). The NEEPA specifies the implementation of Basin Management Action Plans (BMAPs). The Lake Okeechobee BMAP was adopted in December 2014 and allocated the TMDL to the entire LOK Watershed which includes all nine-sub watersheds to the north, south, east and west. The plans contain a schedule for subsequent phases of phosphorus load reduction consistent with the TMDLs and milestones must be set. The FDEP has a five-year cycle for setting and updating TMDLs and BMAPs. Revisions to the NEEPA were enacted in January 2016 and scheduled to become effective July 1, 2016.

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
3.3 LAND USE (Also correct identification agriculture surrounding lake in Section 3.6 Vegetation)	Clarify description of agricultural activities surrounding the Lake.	This section should be updated and clarified in coordination with the Florida Department of Agriculture and Consumer Services. The language should include the following: The primary land use in the Lake Okeechobee region is agriculture. Major agricultural activities in the southern area include sugarcane and row crops, along with ornamental and tree nurseries. Along the East of the Lake, there are citrus groves, sugar cane and increasing row crops. To the West and north, agricultural activities include rangeland and cow calf operations.
3.4 Hydrology & Hydraulics Surface Water;	Clarify surface water supply purposes of Lake Okeechobee and inflow watersheds; Clarify Lake Okeechobee watersheds	Inflow to Lake Okeechobee for drainage purposes and outflow made through a series of Federal, state, and local drainage district culverts that penetrate the HHD are made for water supply to the Lake Okeechobee Service Area (LOSA), municipal water supply, water supply to the Seminole Tribe, water supply to the Water Conservation Areas, water supply to fish and wildlife, water supply to the Stormwater Treatment Areas and other mandated water quality treatment facilities, water supply for groundwater recharge in the Lower East Coast and EAA, and water supply to Everglades National Park. Inflow enters from the north, east, and west of Lake Okeechobee through the following watersheds: Kissimmee River Upper Kissimmee and Lower Kissimmee, Taylor Creek-Nubbin Slough, Fisheating Creek (Nicodemus Slough), Indian Prairie, Lake Istokpoga East Lake Okeechobee and West Lake Okeechobee. The drainage areas associated with these 13 culverts are local water control districts mostly contained within the Everglades Agricultural Area (EAA), but also include U.S. Sugar, Trucane, Lake Point and Five Smooth Stones and many other landowners too numerous to mention. The EAA is divided into seven drainage basins and is comprised of a network of canals, structures, and levees that divide the area to provide for the removal of excess water to Lake Okeechobee and the WCAs to the south. The local water control districts, also referred to as special districts or '298 Districts,' have governmental pump stations that discharge to Lake Okeechobee or the EAA canals. Figure 3-3 provides a map of the 298 Districts.

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
3.4 Hydrology & Hydraulics **Surface Water Use**	Correct description of surface water use of Lake water, including description of 298 Water Control Districts and other users.	This section should be revised in coordination with the South Florida Water Management District for accuracy and completeness. Recommended language includes the following: Surface water diversions from Lake Okeechobee meet several different C&SF project purposes, including water supply to the Lake Okeechobee Service Area (LOSA), municipal water supply, water supply to the Seminole Tribe, water supply to the Water Conservation Areas, water supply to fish and wildlife, water supply to the Stormwater Treatment Areas and other mandated water quality treatment facilities, water supply for groundwater recharge in the Lower East Coast and EAA, and water supply to Everglades National Park. The SFWMD manages the water use permitting process within its boundaries under authority of Chapter 373, Florida Statutes, and several Florida Administration Code (F.A.C.) rule chapters. A water use permit provides the user with a right to divert and use the allocated quantity from a designated source (both groundwater and surface water sources). Permit use classes include agricultural, recreation, public water supply, industrial and "diversion and impoundment" (including 298 Water Control Districts). There are 298 Water Control Districts (originated under the authority of Chapter 298, Florida Statutes), which maintain and operate secondary canal systems in the EAA (Pickett et al., 2013; Figure 3-3). For users within these water control districts, the water supply in the EAA is assured by maintaining water levels in these canals. Water levels in the 298 Water Control Districts with the EAA are maintained approximately 1 to 2 feet below the ground surface, However, during most of the year and especially for harvest, planting, and cultivation the control elevations at the pump stations can be as much as a three to four foot differential do to the distance of the far-point/tail-end of canal. Some distances can be as much as 5-10 miles and of course all is predicated on the weather. For users outside of the water control districts and within the EAA, water tables are maintained by inflow from the SFWMD primary canals. For water users outside of the

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
		EAA, including the rest of the Lake Okeechobee Service Area and the Seminole Tribe of Florida, water users depend upon the level of Lake Okeechobee to provide irrigation to maintain seepage systems or for overhead irrigation.
Section 3.4 Hydraulics and Hydrology Groundwater	Clarify EAA/WCD's groundwater management	Water levels in the 298 Water Control Districts with the EAA are maintained approximately 1 to 2 feet below the ground surface. However, during most of the year and especially for harvest, planting, and cultivation the control elevations at the pump stations can be as much as a three to four foot differential do to the distance of the far-point/tail-end of canal. Some distances can be as much as 5-10 miles and of course all is predicated on the weather.
3.4 Hydrology & Hydraulics **Water control Structures (Culverts)**	Include and update description of the Everglades Agricultural Area consistent with the South Florida Environmental Report (SFER)	Water from the EAA is managed by both the SFWMD through the primary canals and the water control districts through the secondary canals. Additionally, the surface water elevations for water control districts at the control structures are 3-4 feet below ground, on average. Four major canals pass through the EAA: West Palm Beach, Hillsboro Canal, North New River Canal, and Miami Canal. Flows from Lake Okeechobee and runoff from the EAA are discharged via these four canals to relieve flooding for the local drainage area and into the Stormwater Treatment Areas (STAs) for water quality improvement. Discharges to the east coast occur through the West Palm Beach Canal. At times, when conditions do not allow for the STAs to treat all runoff water, diversion to the WCAs could occur. The inflows from Lake Okeechobee to these canals are from structures S-351, S-352, and S-354. These structures are gated spillways with a maximum tailwater elevation not to exceed 12 ft NGVD for Lake Okeechobee operation. The optimum water control elevations for S-351 and S-354 range between 11.5 and 12.0 ft NGVD. During WY2014, daily average elevations ranged from 9.50 to 12.13 ft NGVD. The outflows from the four canals to the STAs are discharged through pump structures S-5A, S-319, S-6, G-370, G-372, and G-434. Outflows from STAs are inflows into WCAs. During the dry season and drier-than-normal wet seasons, water supply for agricultural irrigation is provided by these four primary canals, mainly through gravity release from Lake Okeechobee. During droughts, when Lake Okeechobee levels are low, forward pumping is required to

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
		withdraw water from the lake. At times, water is also supplied to the EAA from the WCAs. Farmers utilize a set of secondary and tertiary farm canals to distribute water from several gated culverts and pumps to their respective fields. (SFER 2-39 2015)
3.5 Water Quality	Correct inaccurate and outdated information; update based on Northern Everglades and Estuaries Protection Act (NEEPA)as amended in 2016	See comments for Section 1.9
3.8 Threatened and Endangered Species	Correct inaccuracies on species listing status and section on snail kites	Table 3-6 on listed species in the EIS contains various inaccuracies on the current status of listed species that should be corrected before the EIS is finalized. Additionally, snail kite information should be updated to reflect best available information on current population, habitat, foraging, and nesting conditions
3.12.1 Economic Activities In and Around Lake Okeechobee	Insert accurate descriptive information regarding socio-economic activities and local governments.	The primary economic activity throughout the study area is agriculture. The EAA, located directly south of Lake Okeechobee, consists of approximately 500,000 acres of highly productive agricultural land, the vast majority of which is under active sugarcane cultivation. In addition to sugarcane, crops grown in the EAA include an array of winter vegetables including sweet corn, green beans, all varieties of lettuce, radishes, celery, rice and sod. This region of Palm Beach County is the nation's top producer of sugar, sweet corn, radishes and number two in winter vegetables. The economic value of these crops exceed $3 billion annually (FDACS 2016) and provide employment for more than 12,000 people in the sugar sector alone(LMC Internation-2011). The agricultural operations are vertically integrated and there are four raw sugar mills, two sugar refineries, a rice mill, eight vegetable packing houses and distribution centers, and a renewable energy power plant. Other agricultural activities in the Lake Okeechobee watershed include citrus, pasture, livestock and dairy operations.

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
		Other than agriculture, recreation, tourism, commercial fishing, and navigation, secondary economic activities include: services (banking, insurance, etc.) healthcare, education, and government activities. Examples of the above include: the Lakeside Medical Center, and the University of Florida- Everglades Research and Education Center, Palm Beach State College, Belle Glade Campus and the Dolly Hand Cultural Arts Center; Glades Day School serving students Pre-K-12; seven public elementary schools, two middle schools and two high schools as well as the West Technical Training and Education Center. The City of Clewiston is a major center of the agricultural community around the Lake. Known as the "Gateway to Lake Okeechobee" it has many of the above activities. Also, the Town of Moore Haven is the seat of government for Glades County, so there are several public buildings in the town. (This section does not cover any economic activity associated with the City of Okeechobee that sits on the north shore of the lake.)
3.12.2 Demographics	Recognize socioeconomic value of farming in EAA	The primary economic activity throughout the study area is agriculture. The Everglades Agricultural Area (EAA), located directly south of Lake Okeechobee consists of approximately 500,000 acres of highly productive agricultural land, the vast majority of which is under active sugarcane cultivation. Palm Beach County is the nation's leader in production of sugarcane, sweet corn, winter leaf crops and radishes and number two in winter vegetable production. In addition, citrus and pasture lands for livestock and dairy operations are in the watershed.
3.16 Recreational Resources **Fishing and Boating**	Recognize Belle Glade facilities.	The City of Belle Glade also has a marina and camp ground to access the lake off of Torey Island.

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
4.3 Land Use	Correct inaccurate and incomplete language regarding land use	For the past 100 years, the primary economic activity in this area has been agriculture. As discussed previously, ecosystem restoration projects are projected to be completed in areas south of the HHD project area designed to restore the hydrology and water quality in the Everglades Protection Area. According to the South Florida Water Management District's Lower East Coast Water Supply Plan, agricultural production south of Lake Okeechobee is projected to remain steady. As urban development continues to move west, there is an opportunity for the Glades community to grow in the light manufacturing, industrial development and distribution center areas. The tri-cities participate in the Lake Okeechobee Region Economic (LORE) alliance that has partnered with the Business Development Board of Palm Beach County in attracting new businesses to the Glades region. The former Glades Correctional Institute site is being actively marketed and several agricultural businesses have expanded in this region. Also, through the LORE/BDB partnership two additional employment centers are being built and several other leads are underway. Improvement to the local infrastructure has received both state and local funding to improve the area. Land use (Figure 4-1) for the northern part of the watershed (i.e., Kissimmee Upper Basin) will become increasingly developed as the Orlando-Kissimmee urban epicenter continues to sprawl. Existing population centers in the southern part of the watershed and along the perimeter of Lake Okeechobee are predicted to expand outward such that development along the entire rim of the lake would be nearly continuous.
4.4 Hydrology & Hydraulics **CERP Central Everglades Planning Project (CEPP) – In Place**	The water supply benefits of CERP are not carried forward in CEPP.	The purpose of the CEPP is to improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries, central Everglades (Water Conservation Area 3 (WCA 3) and Everglades National Park (ENP), and Florida Bay.

Draft HHD EIS Section	Purpose	Specific Comments and Clarifications
4.4 Hydrology & Hydraulics SFWMD Northern Everglades and Estuaries Protection Program	Correct inaccurate and outdated information.	See comments for Section 1.9 Approvals.
4.5 Water Quality Surface Water	Correct inaccurate and outdated information.	See comments for Section 1.9 Approvals. The following is additional recommended language for this section: The most significant flows into Lake Okeechobee related to nutrient loading are from the northern Lake Okeechobee Basin, and not agricultural operations in general.
4.12 Socioeconomics 4.12.1	Correct statement regarding agriculture as economic driver	The basic economic drivers associated with high value integrated agricultural operations are expected to remain in place over time. Value added by agricultural businesses and industries will likely occur over the long term.
5.5. Water Quality **Surface Water Quality**	Recognize existing Corps commitments on monitoring wells for saltwater movement	This section should be updated to reflect previous commitments identified in: May 12, 2015 Memorandum to Florida State Clearinghouse from Chad Kennedy, et al, Florida Department of Environmental Protection, "Department of the Army, Jacksonville District Corps of Engineers – Draft Environmental Assessment for the Herbert Hoover Dike Supplemental Major Rehabilitation Report – Palm Beach County, Florida SAI # FL201503177229C"; February 8, 2016 letter from Palm Beach County, Mary Lou Berger, Mayor to Stacie Auvenshine, USACE, regarding "Herbert Hoover Dam Draft Environmental Impact Statement" (contained in Index to USSC comment letter); and February 12, 2016 Letter from Rebecca Elliott, Florida Department of Agriculture and Consumer Services to Department of Environmental Protection, Florida State Clearinghouse, "Department of the Army, Jacksonville District Corps of Engineers – Draft Environmental Impact Statement (EIS) for Herbert Hoover Dike (HHD) Dam Safety Modification Study Report- SAI# FL2016010475C"

LAKE OKEECHOBEE
and
THE HERBERT HOOVER DIKE

A Summary of the Engineering Evaluation of Seepage and Stability Problems at the Herbert Hoover Dike.

The Good Life

Lake Okeechobee and the Herbert Hoover Dike Are Important to South Florida.

Here's Why:

It's the second largest freshwater lake that lies entirely within the United States.

To the north, cowboys on horseback raise cattle. To the east, vacationers in RVs make camp.

There are deer. Turkey. Wild boar. And scores of bird watchers seeking a peek at the rare Everglades Kite.

Miles and miles of citrus groves play neighbor to a sugarcane industry that generates thousands of jobs and more than $1.5 billion annually for the economy of the region.

You'll find tourists from around the world sightseeing and fishing for bass.

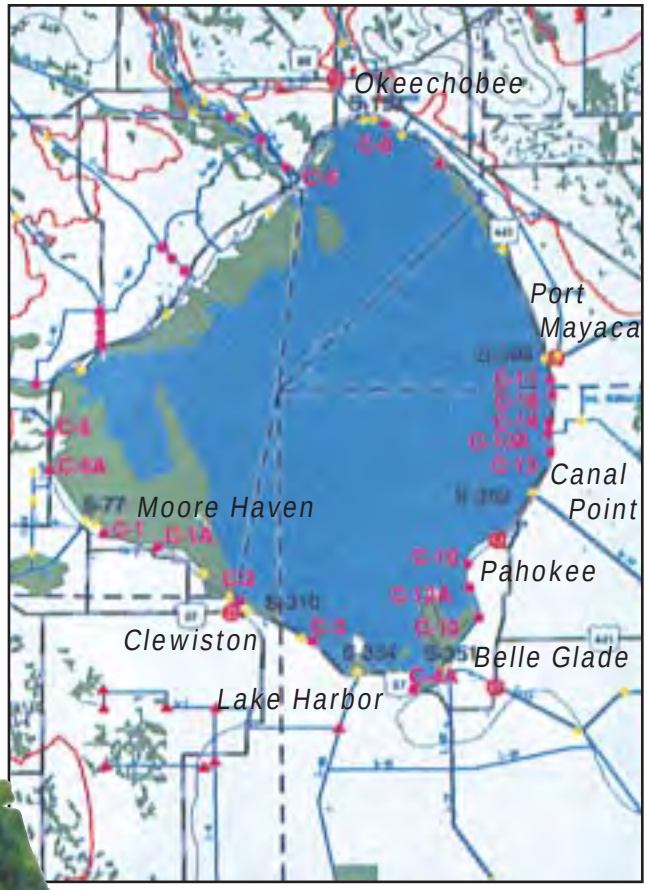
Seminoles named it "Big Water." And more than 40,000 men, women, and children living in communities like Lakeport, Moore Haven, Clewiston, Lake Harbor, South Bay, Belle Glade, Pahokee, Canal Point, Port Mayaca, Indiantown, and Okeechobee call it home.

Fact: *Sixteen species known to occur in the vicinity of the lake are currently listed as threatened or endangered by the U.S. Fish and Wildlife Service.*

The People. The Land. The Water.

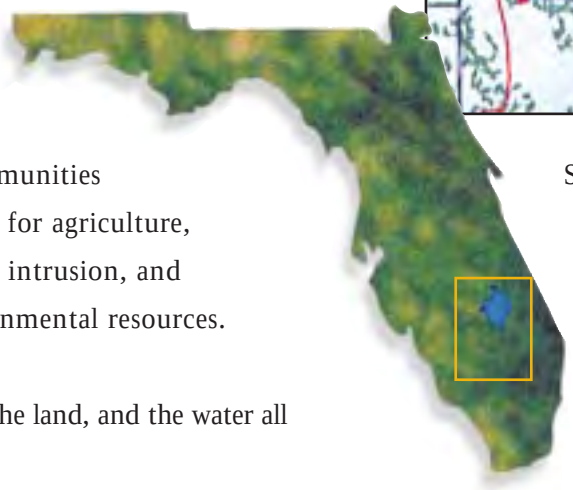
The good life is protected by the Herbert Hoover Dike.

The Herbert Hoover Dike is an earthen dike system that encircles Lake Okeechobee for 140 miles.



The dike system has numerous water control structures to provide flood protection, navigation, recreation, freshwater for the communities of south Florida, water for agriculture, prevention of saltwater intrusion, and enhancement of environmental resources.

In short — the people, the land, and the water all depend on each other.



Since 1984, the U.S. Army Corps of Engineers, Jacksonville District, has written several engineering reports documenting that areas of the dike are prone to water seepage and stability problems.

And these problems may put the good life at risk.

"Records covering the performance of the dike system during major flood events indicate that the embankment and foundation of the structure are susceptible to significant seepage and piping erosion when the reservoir reaches critical levels during these flood events."

— Excerpt from *Expert Review Panel Report of Findings and Recommendations*, October 1, 1998

The Problem

Breach of Florida Power and Light Cooling Reservoir, 1979. Failed due to piping of material from the foundation of the dike.

Here's What We Have Found:

For the layman, the problem with the Herbert Hoover Dike when the lake reaches high water levels can be summed up in two words:

"It leaks."

An overly simplified description of the problem? Perhaps. Yet, it's true. When the lake is high, water finds its way through the dike from lakeside to landside – sometimes eroding soil from within or beneath the dike.

This erosion of soil is technically known as *piping*. The piping of the soil creates a continuous open path through which water can erode even more soil. If this soil erosion is allowed to continue, it will eventually create large cavities in the dike.

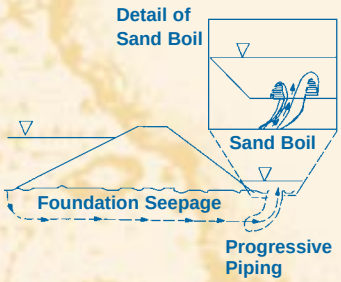
And those large cavities — with water from the lake running through them unimpeded — create a serious risk that the dike will breach, with large releases of water from Lake Okeechobee flooding the surrounding lands.

Building the Dike

Throughout its history, the dike was designed, built, and maintained within the accepted

Sandbagging and piping at Lake Harbor showing mound of piped material that is flowing from the dike.

FOUNDATION PIPING



Piping — *the erosion of soil caused by water. As the soil erodes, it creates an open path (a "pipe") through which water can pass. As more and more soil erodes, the pipe gets larger.*

standards existing at the time — beginning in the 1930s.

The dike was originally constructed using hydraulic dredge and dragline techniques which concentrated deposits of pervious shell, rock, and gravel within the dike.

The hydraulic dredging methods used to construct the first levees were state-of-the-art and fully acceptable in the 1930s; however, due to an improved understanding of material properties and seepage mechanisms, those same methods would not be acceptable today.

In addition, the foundation beneath the dike has pervious layers of limestone, sand, gravel, and shell.

As a result of the pervious zones described above, some areas of the dike are prone to excessive seepage.

Sinkhole on levee crest at Lake Harbor site.

"The causes of the seepage and piping are related to the geometry, materials, and methods used in the construction of the dike and in the complex and variable geology comprising the foundation of the dike system."

— Excerpt from *Expert Review Panel Report of Findings and Recommendations*, October 1, 1998

"Our seepage analysis indicates that dike seepage gradients increase non-linearly as the lake elevation rises above +20 feet. In its present geometry, condition, and without extensive maintenance activity, it is our opinion that seepage and piping related dike breach is likely as the lake elevation rises above +20 feet."

— Excerpt from the conclusions of URS Greiner Woodward-Clyde, an engineering consultant firm hired to perform an independent analysis of dike conditions

What is a Dike Failure?

When we say dike failure, we mean a breach or open gap in the dike. Waters from Lake Okeechobee would pass through the breach — uncontrollably — and flood adjacent land.

Some dike problems may be harmless – such as the formation of springs and wet areas along the landward toe of the dike. These conditions are undesirable but do not pose immediate safety hazards.

We have found, during recent high water events, that numerous areas of the dike have seepage and piping problems when the lake elevation reaches 18.5 feet.

THE DANGER: Flooding would be severe and warning time would be limited. And with 40,000 people living in the communities protected by the Herbert Hoover Dike, the potential for human suffering and loss of life is significant.

It's a risk we can't afford to take.

How Bad is It?

There is limited potential for dike failure with lake elevations lower than 18.5 feet. But as the lake level rises, so does the risk of dike failure.

Our analytical studies show a dike failure would be likely at one or more locations if the water elevation in Lake Okeechobee reached elevation 21 feet.

The lake would reach elevation 21 feet during a 100-year flood event.

Statistically, a 100-year flood event would be expected to happen on average once every 100 years. But in reality, a 100-year flood event can happen during any given year.

City of Pahokee, on the east side of Lake Okeechobee.

In fact, Lake Okeechobee reached an elevation of 18.6 and 18.5 — both 30-year events — in 1995 and 1998. That's two 30-year events in only four years.

Note: The lake elevations referred to in this report are static lake levels that last for weeks, not a hurricane wind driven storm surge that lasts for only a few hours.

When Will the Dike Fail?

There is limited potential for a dike failure with lake levels as low as 18.5 feet. The likelihood of a failure increases at higher lake levels. At a lake level of 21 feet, a dike failure would be likely at one or more locations.


Lake Okeechobee

ps keep watch on aging dik

rrounding Lake Okeechob

What the World Experts Say:

The U.S. Army Corps of Engineers, Jacksonville District, convened an expert panel of five of the world's foremost authorities in Geotechnical Engineering. Here is a portion of their conclusions:

"We believe the deterministic and probabilistic models developed by URSGWC and the (Jacksonville) District are based on the best information available. Further, we believe the conclusion they have drawn from their analyses — that there is a very serious risk of catastrophic failure and loss of the reservoir due to piping — is reasonable.

"Considering the past performance of the dike system and our assessment of the probable performance of the dike under the more critical 100-year flood event, as well as the high potential for downstream catastrophic loss of life and damage due to dike failure, the Panel considers the dike to be unsafe from a piping and erosion point of view, and recommends that actions be taken without further delay to initiate remedial design and construction of repairs to bring the dike up to satisfactory condition."

Members of the Expert Review Panel for the Herbert Hoover Dike:

John A. Bischoff, P.E.
Senior Managing Principal and Vice President for Woodward-Clyde Consultants

J. Michael Duncan, Ph.D., P.E.
University Distinguished Professor, Department of Civil Engineering, Virginia Polytechnic Institute and State University

Ronald C. Hirschfeld, Ph.D., P.E.
Associate Professor of Civil Engineering
Massachusetts Institute of Technology (Retired)

Dr. J.B. (Hans) Sellmeijer
Scientific Specialist, Delft Geotechnics,
The Netherlands

Thomas F. Wolff, Ph.D., P.E.
Associate Professor and Associate Dean,
Department of Civil and Environmental Engineering, Michigan State University

The Precedence

Disaster Led to the Building of the Dike

View from Pahokee water tower before the dike was built, circa 1935.

The ravages of nature struck Lake Okeechobee in September of 1926.

There was no Herbert Hoover Dike. Just a small muck dike that had been made to keep the lake from drowning crops.

Hurricane winds thrashed the town of Moore Haven with a wall of water that killed nearly 400 people.

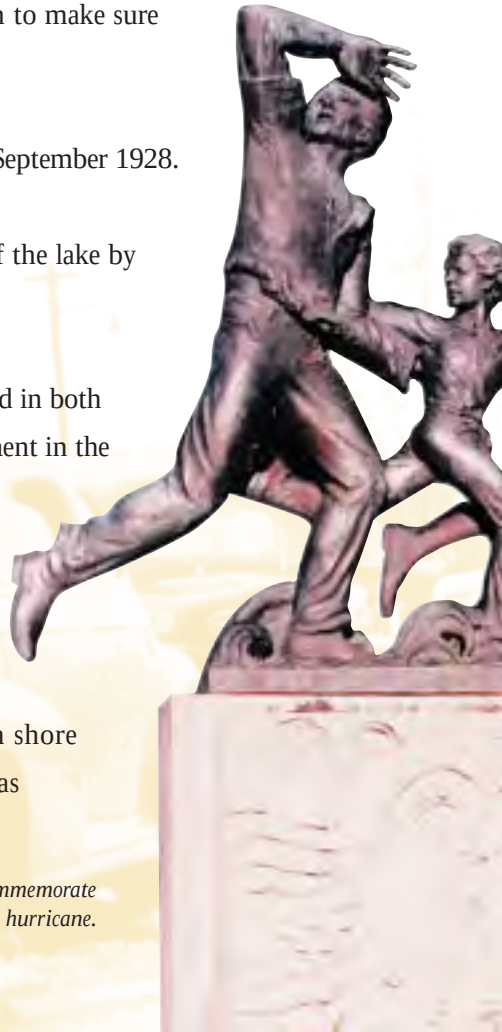
Engineers, lawyers, and politicians looked for a solution to make sure that kind of tragedy never happened again.

But before one was reached, another hurricane struck in September 1928.

Nearly 2,000 people were killed by waters driven out of the lake by hurricane winds.

These tragedies — commemorated by monuments erected in both Clewiston and Belle Glade — prompted federal involvement in the provision of flood protection to lakeside communities.

The result was the Corps of Engineers construction of the Herbert Hoover Dike, which began in 1932. The 68-mile south shore was completed in 1936, and an additional 16-mile north shore was completed in 1938. Subsequent construction has increased the dike length to 140 miles.



Monument in Belle Glade to commemorate the 2,000 victims of the 1928 hurricane.

100-Year Event — *an event that happens an average of once every 100 years. (For example: Every year Lake Okeechobee has a 1 in 100 chance of reaching a level of 21 feet.)*

The Corps has maintained a diligent schedule of maintenance and repair ever since. Yet, even so, time has taken its toll.

May 1974 – North Shore Dike Breach

A section of the north shore dike extends for about 6.5 miles from Lake Okeechobee along the north bank of the Kissimmee River.

In 1974, a portion of this dike at the intersection of a drainage canal breached due to piping.

Fortunately, due to low lake levels at the time, the breach of the dike resulted in a flood release from the canal that flowed into Lake Okeechobee rather than out of the lake.

As a result, only the dike and a water control structure were damaged, and there were no other flood-related damages.

1979 Florida Power & Light Dike Failure

The nearby Florida Power and Light Cooling Reservoir Dike failed in 1979 causing considerable flooding damages. It failed as a result of piping through its foundation.

Similar foundation conditions and piping potential would exist for the portions of Herbert Hoover Dike north of Port Mayaca.

Flooded Main Street in Clewiston due to hurricane rains, circa 1948.

"There are numerous case histories of piping failure where seepage-control measures were not present, as is the case at Herbert Hoover Dike. Two piping failures have occurred in the immediate vicinity (northwest corner of Herbert Hoover Dike and Florida P&L) with differential heads of approximately 14 feet. Seepage and piping failures may occur without warning. They may result, in part, from accumulated damage from previous high water events and/or high water duration, in addition to differential head."

— Excerpt from *Expert Review Panel Report of Findings and Recommendations*, October 1, 1998

The Threat

High Lake Levels Create an Unacceptable Risk

The subtropical climate of the Lake Okeechobee area produces steamy summers and dry winters.

And it rains a lot — between 55 and 60 inches every year.

Any excessive rainfall would result in higher lake levels if it falls directly on the lake or within its drainage basin.

There is no reason to be afraid of a spring shower. But if it rains . . . and rains . . . and keeps raining — like it often does in South Florida — stress is placed on the dike as the rain causes lake levels to rise.

And Then There's Hurricane Season

It happens — without fail — every year.

From June 1 to November 30, the people who live in the communities around Lake Okeechobee stay prepared. They stock up with extra food, drinking water, batteries — all the essentials, just in case a storm hits. And they trust in the Herbert Hoover Dike to help protect them.

The effects of a hurricane — with its strong winds, heavy rains, and storm surges on the lake — could contribute to loss of life and property.

But the dike has been stressed during recent high water events — even without a hurricane.

High Water Event — 1995

In the late summer and early fall of 1995, the lake rose to elevation 18.6 feet. The dike showed substantial distress, but it did not breach.

However, several significant problem areas were identified.

Cane field in Clewiston, 1998.

Seepage — *the movement of water through soil or rock.*

Inspection teams discovered excessive seepage, piping, and sinkhole formation on the dike crest. Cloudy water exiting the landward toe of the dike and the accummulation of fine sands indicated that internal erosion of the dike was occurring.

Emergency repairs (construction of "seepage berms") were completed in time for the 1996 hurricane season, but these repairs were not intended or designed to be a permanent solution to the seepage and stability problems.

High Water Event — 1998

In March of 1998 the lake rose to elevation 18.5 feet. Again, it did not fail.

But overall conditions continued to worsen. Areas not repaired from the 1995 high water event exhibited additional boil formation and seepage — presumably due to cumulative damage that occurs with each successive high water event.

The Risk is Unacceptable

It could be a hurricane, a tropical storm, or just lots of heavy rain. The risk increases significantly anytime the lake reaches an elevation above 18.5 feet.

Major Rehabilitation Evaluation Approach

The Army Corps of Engineers' goal is to ensure that a reliable dike system is provided along the perimeter of Lake Okeechobee. That's why we have conducted a Major Rehabilitation Evaluation of the Herbert Hoover Dike.

For the Major Rehabilitation Evaluation, we performed engineering, economic, and environmental analyses for the entire Herbert Hoover Dike system. This approach has allowed the Army Corps of Engineers to:

- Determine that rehabilitation measures related to seepage and stability problems are warranted
- Provide economic justification for the rehabilitation measures
- Address environmental issues related to the proposed rehabilitation
- Provide a technical supporting document for a comprehensive Project Cooperation Agreement
- Allow direct progression into preparation of Plans and Specifications for rehabilitation of Reach 1

The evaluation has indeed indicated that rehabilitation efforts are warranted; therefore, upon approval of the Major Rehabilitation Evaluation Report, a series of additional efforts will be initiated if appropriate funding is available.

The Plain Truth

What Are Our Options? And What Happens if We Do Not Fix the Dike?

If the problems with the dike are not corrected, we would continue to inspect the dike during high water events. And we would do whatever was humanly possible to prevent a dike breach.

We would continue to perform maintenance and operate the dike as we have done historically.

But that means the people and property protected by the Herbert Hoover Dike would continue to be subjected to an unacceptable risk of dike failure. Also, the best efforts of the Corps of Engineers, the South Florida Water Management District, and the local emergency management agencies may not be enough to avert a dike failure if the lake rises above 19 feet.

So what are our options?

We Could Keep the Lake Below Elevation 18.5 Feet

This may seem like an easy answer; however, our ability to remove water from the lake is limited by the capacity of available outlet facilities.

In short, we can only lower the lake at a rate of about 0.4 of an inch per day under ideal conditions. But during extreme rainfall events, this would not be enough. The amount of water entering Lake Okeechobee would be much greater than the amount of water we could discharge.

The lake elevation would actually rise even if we were discharging water from the lake at the maximum possible rate.

We could increase our outlet capacity by building a new outlet channel, but the costs would be much greater than our proposed rehabilitation of the dike.

We Could Permanently Lower the Lake

Unfortunately, even if we were to substantially lower the lake, during a 100-year flood event, the water comes into the lake much faster than we could remove it. The lake level could still rise to an elevation that could result in a dike failure.

Besides, maintaining unusually low lake levels — or draining the lake entirely — would have significant socioeconomic and environmental consequences.

During high lake stages, large regulatory discharges are sometimes made from the lake to the estuaries to avoid loss of life and property associated with high stages and hurricane-generated waves and tides. Any prolonged releases of large freshwater discharges, including urban and agriculture basin runoff, can cause adverse effects to the estuarine system.

Therefore, lake levels must be maintained within reasonable levels.

We Could Build Relief Wells

Relief wells are specialized water wells that would be constructed to drain seepage water from within the dike or from the foundation of the dike before the seepage water can exit on the surface.

When seepage water is prevented from exiting on the surface, no piping of dike materials is possible.

The problem with this solution is that it will only work for certain portions of the dike.

We Could Build Ring-Dikes and Increase the Tailwater

We could build a second smaller dike parallel to and landward of the Herbert Hoover Dike. We would then raise the water level between the two dikes (tailwater). This would decrease the differential seepage pressure across the big dike. Decreasing the seepage pressure would prevent the piping of materials from the Herbert Hoover Dike.

This alternative was investigated in significant detail; however, the estimated level of protection it would provide is not adequate.

Or We Could Build a Cutoff Wall to Hold Back the Lake Waters

A cutoff wall would require digging a trench through the dike and into the dike foundation. This trench would then be filled with clay. The clay would not allow the passage of seepage water from the lake through the dike.

With this seepage water cut off, piping of materials from the dike would not be possible.

Although this alternative may be very effective, it is expensive. The estimated cost is $16 million per mile.

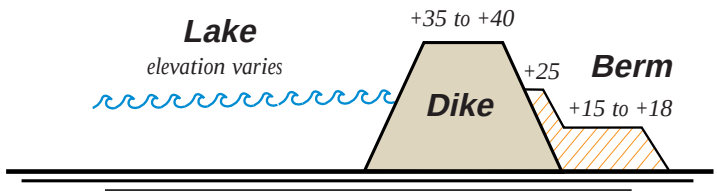
Also, this alternative could have detrimental impacts on groundwater flows immediately adjacent to the dike.

"The [Jacksonville] District's vigilance in taking emergency action in 1995 may have prevented a breach. After the 1995 event, they made very diligent efforts to staff and train a surveillance team and to react to observed distress.
They also constructed effective seepage control berms, filters, and drains after the event. These measures performed well in the 1998 high water event. The importance of this effort cannot be overemphasized."

— Excerpt from *Expert Review Panel Report of Findings and Recommendations*, October 1, 1998

The Recommended Solution

Cross Section of Dike



Typical dike section for southeast portion of the lake, not to scale, elevations shown are in feet.

This is It:

We are currently proposing for approval a solution which involves the construction of a seepage berm, with relief trench and drainage system, along the landside toe of the dike.

In other words, we would build a filter that lets the water through without allowing the dike material to pass through with it.

It's cost-effective, provides good flood protection, and doesn't harm the environment.

We are pursuing this solution for the first phase of construction along 22 miles of the southeast shore. This first phase — one of eight segments we have prioritized due to the great length of the dike — is where the most severe seepage and stability problems occur.

Here's the Technical Stuff:

The five-foot thick berm will consist of filter sand

Construction site at culvert No. 3 east of Clewiston - An example of part of the 10 million dollars of construction work already completed.

Fishing pier on Lake Okeechobee.

and gravel and will contain a perforated culvert for the collection and transfer of seepage waters.

The berm will prevent piping of soil from the embankment and foundation. A relief trench below the berm will control uplift pressures and prevent heaving at the landward toe of the embankment. It will also intercept and transport seepage which would otherwise emerge uncontrolled landward of the embankment.

Sound complicated?

Think of it this way: It's like making coffee. The water passes through, but the grounds are retained by the filter.

And the people living around Lake Okeechobee stay protected.

"We recommend that the Corps of Engineers stockpile repair materials at strategic locations to control piping that may develop along those stretches of the dike that showed signs of distress during the high-water period in 1998. Such repair materials would include, but not be limited to, filled sandbags and soils that satisfy filter criteria and that could be used to build weighted filters over areas where springs discharge soil."

— Excerpt from *Expert Review Panel Report of Findings and Recommendations,* October 1, 1998

The Need

Time. Money. Dedication.

Here's the bottom line:

For the first phase of construction — 22 miles along the southeast shore of the lake from Belle Glade to Port Mayaca —the estimated cost is $67 million.

The rehabilitation of other portions of the dike will be addressed in subsequent engineering reports.

It Will Take Time

The first phase of construction will take about four years.

If rehabilitation is required along all of the south and east shores, we estimate the total construction time will be 12 years.

We could construct the needed improvements more quickly if funds were available to support simultaneous construction efforts.

The Happy Ending

For the People, the Water, and the Land

The Herbert Hoover Dike was built to protect the people who live around Lake Okeechobee.

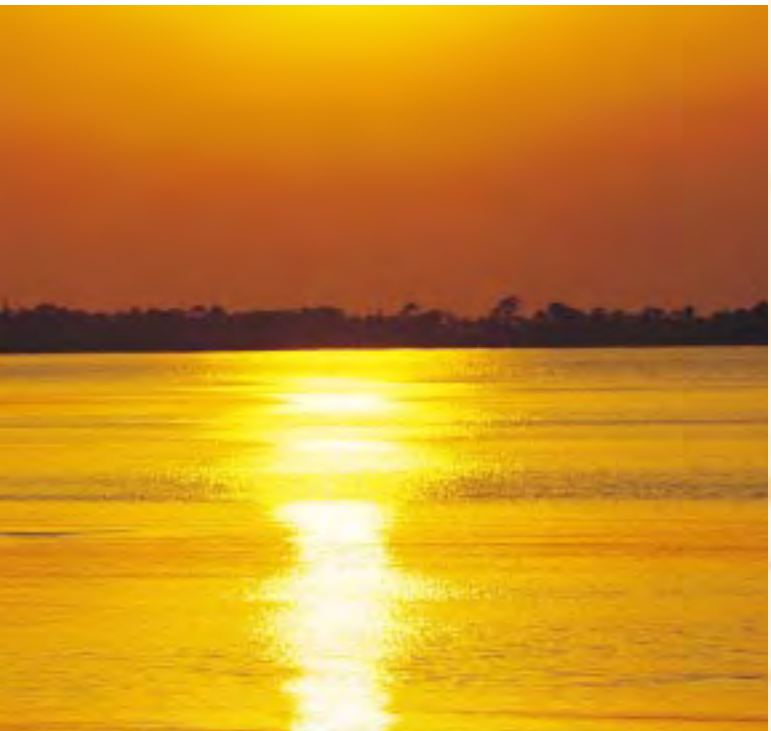
The dike has provided significant benefits to the people and economy of South Florida for 60 years.

But our engineering studies and the recent two high water events have demonstrated that the dike does not provide the required level of flood protection when lake levels exceed 18.5 feet.

But it can. We have the solution.

We can protect the good life — the heart-stopping beauty of Lake Okeechobee — for the people who live here . . . work here . . . play here.

For their children. And for future generations.



"We recommend that the Jacksonville District, U.S. Army Corps of Engineers review their Emergency Action Plans to ensure that timely warnings can be issued and emergency actions taken in case of a breach or imminent breach anywhere along the dike. The District should review their plans for stockpiling materials and for mobilizing earthmoving equipment and operators to plug any breaches that may develop."

— Excerpt from *Expert Review Panel Report of Findings and Recommendations*, October 1, 1998

Questions & Answers

1. Is the dike going to fail?

There is limited potential for dike failure with lake levels as low as 18.5 feet. The likelihood of a failure increases at higher lake levels. At a lake level of 21 feet, a dike failure would be likely at one or more locations.

2. Wasn't the dike fixed in 1995?

In the past five years, we have completed $10 million worth of construction that was directed toward problem areas. Those critical repairs were only a partial solution to the seepage and stability problems — more work is needed.

3. What is being done about the problem now?

Our plan is to diligently inspect the dike during high water events. In a joint effort with the South Florida Water Management District and local authorities, we will inspect the dike system daily when lake levels meet or exceed elevation 18.5 feet. We will direct all available resources toward the early identification and rapid repair of any problem areas.

If conditions began deteriorating in spite of our efforts to control the seepage, we would recommend evacuation of the threatened areas.

4. How long have you known about this condition?

There have been some questions about the reliability of the dike since 1984. Our engineering studies, along with our observations of the dike during the 1995 and 1998 high water events, have demonstrated that those concerns were warranted.

5. Why was an unsafe dike built in the first place?

The Corps would not intentionally build an unsafe dike. The dike was built in compliance with the construction standards that existed in the 1930s. Recent engineering analysis, along with the observed high water damage to the dike, demonstrate that the levee will not withstand sustained high lake levels.

6. If the dike fails, where would it fail?
Our engineering studies indicate the southern and eastern portions of the dike system are more likely to fail than the northern and western portions of the dike.

7. Is my community at risk of flooding?
The Corps of Engineers have developed flood maps that show the areas that would be flooded if the dike were to break. If a dike break occurred near a population center, that area would be flooded.

8. How much warning would there be?
In general, we would expect a warning time of 24 to 48 hours prior to a dike failure that releases water from the lake; however, under some conditions the warning time might be longer, and under others, a dike failure could occur with no warning.

Should an emergency occur, instructions for public saftey will be issued through the local Emergency Management Agency.

The primary objective of our high water inspection procedures is to identify any problems as quickly as possible. If problems are detected soon enough, remedial measures can be taken in an effort to prevent a dike failure. However, there are over 140 miles of levee within the dike system, and inspection resources and manpower are finite. Also, there exist some possible failure scenarios which would be difficult, or impossible, to detect prior to failure. If a dike failure occurred, the warning time would depend on factors such as the nature and mechanism of the failure, where it occurs, and at what stage the problem was detected.

9. How could such a massive structure fail?
The massiveness of the structure would argue for the inherent safety of the dike, but there are specific features within the dike that could contribute to a failure.

For example, substantial portions of the levee were constructed out of shelly material that is highly pervious to water. Water seeping through these shelly materials during the 1995 and 1998 high water events caused erosion of the dike material. This type of erosion creates cavities within the dike which increase the potential of a dike failure.

10. How will the public be informed about potential failures of the dike?
The Corps will keep all interested parties informed about seepage problems along Herbert Hoover Dike and efforts to remedy those problems. If high water conditions arise in the future, prior to construction of the remedial measures, the Corps will coordinate with local emergency management agencies and issue press releases to inform the public of our concerns and proposed actions. Individuals seeking information about any Corps activities can contact the Jacksonville Corps of Engineers' Public Affairs Office. The phone number is (904) 232-1650.

This publication is furnished by:

U. S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019
904-232-1650

Index to the Documents to Supplement the Record on the "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) Drafted by the Department of the Army; U.S. Army Corps of Engineers, Jacksonville District

Submitted on behalf of the United States Sugar Corporation

February 23, 2016

EXHIBIT B

Index to the Documents to Supplement the Record on the "Draft Environmental Impact Statement on the Herbert Hoover Dike Dam Safety Modification Study" (December 15, 2015) Drafted by the Department of the Army; U.S. Army Corps of Engineers, Jacksonville District

February 23, 2016

No.	Document Description
001	0000-00-00 Summary of the Engineering Evaluation of Seepage and Stability of HHD
002	2015-04-28 HHD Draft EA Clearinghouse Comments (FDACS)
003	2015-04-28 HHD Draft EA Clearinghouse Comments (FDOT)
004	2015-05-12 Memorandum to State Clearinghouse from DEP 15-7229C DEP Comments
005	2015-11-00 HHD - Integrated Delivery Schedule
006	2016-01-26 HHD DSMS Public Meeting

Auvenshine, Stacie SAJ

From: Nicholas Allen <nballen7249@eagle.fgcu.edu>
Sent: Tuesday, February 23, 2016 9:23 PM
To: HHDEnvironment, SAJ
Subject: [EXTERNAL] Lake Okeechobee Comment

Dear Stacie Auvenshine,

I am writing in regards to the Lake Okeechobee water quality control problem. Growing up on the St. Lucie River and currently going to Florida Gulf Coast University in Fort Myers, I have seen what the waters on both sides of the state look like when Lake Okeechobee water is being discharged. I understand it is a complicated problem because it affects so many people and ecosystems. My question is why has it taken so many years to find a more permanent and sustainable solution?

I have read the Draft Environmental Impact Statement(December 2015), and know about the NEPA process; so I can see why it takes longer than most people unaware of all the processes it takes to implement a program would assume. But I don't understand why this process hasn't been expedited, since it such a huge environmental problem. And how much do the big sugar corporations south of Lake Okeechobee affect decisions in regard to water management of Lake Okeechobee waters? Thank you for taking the time to read these questions and hope you are able to clarify these matters for me.

Sincerely,

Nicholas Allen

Auvenshine, Stacie SAJ

From: Nicholas Culligan <nickculligan@gmail.com>
Sent: Monday, February 22, 2016 8:20 PM
To: HHDEnvironment, SAJ
Subject: [EXTERNAL] Public Comment for Herbert Hoover Dike Dam Draft EIS

To Whom It May Concern:

My comment concerns Chapter 370, Living Saltwater Resources. This section states that the State must preserve, manage, and protect any and all of the living saltwater resources and surrounding human activities while completing the project. The consistency statement says that the project is located inland so there would be no effect on the downstream saltwater resources. However, this project is directly affecting Lake Okeechobee which is the major contributor of fresh water to South Florida's nearshore environments and estuaries. The statement mentions that this is only a rehabilitation of the HHD embankment and will not change the Lake Okeechobee Regulation Schedule. Because of that, the EIS says that the project is not applicable to this chapter. However, I think it is very applicable. Even though there is not a change to that water schedule, any kind of development has an effect on the environment around it, especially development concerning a large water supply. The construction that takes place on these dikes will have an effect on Lake Okeechobee and in turn will somehow effect the estuaries and nearshore environments that receive water from it. Even if the effect is minimal, I think that there is a big enough chance that something could happen that it deserves more research into that topic. Instead of this section not being applicable to the project, there should be at least some form of caution when looking at these possible effects. It is much better to do a little extra work now to absolutely make sure that there will be no effect rather than to assume there will be no effect and there to be one. We have seen recently how much the lake effects the nearshore environments with all of the water releases recently (red tide, too much freshwater in the nearshore areas), so it would be beneficial to prevent anything like that from happening by an accident in this project.

-Nicholas Culligan

EIS Public Comment

Has there been any studies of the water quality throughout the Caloosahatchee River or the St. Lucie River, into where they lead out into the Gulf of Mexico and the Atlantic Ocean? Is there any way that before releasing any of the water into the two rivers that we can treat the water and have similar conditions the two rivers have? Has the water quality even in Lake Okeechobee been analyzed and compared to the two rivers? Instead of just releasing the water that could be toxic and can effect other areas and organisms, having the same water quality through each water way can protect the civilians, as well as the organisms living there.

Auvenshine, Stacie SAJ

From: Rebecca May <rkmay3145@eagle.fgcu.edu>
Sent: Sunday, February 21, 2016 6:29 PM
To: HHDEnvironment, SAJ
Cc: Gable, Frank
Subject: [EXTERNAL] Comment on the Herbert Hoover Dike Dam Safety Modification Study EIS

Good evening Ms. Auvenshine,

I was able to able to obtain a copy of Governor Rick Scott's letter in regards to the flooding of the Everglades Water Conservation Areas and the releases of water from Lake Okeechobee and also the draft Environmental Impact Statement for the Herbert Hoover Dike Dam Safety Modification Study. Under the Environmental Consequences of the Tentatively Selected Plan section of the E.I.S. there is a statement that says "there is potential for disturbance to the species during construction activities." Is there anything in place or in the works that aims to reduce these disturbances during construction?

Thank you,

Rebecca May