EVERGLADES AGRICULTURAL AREA
A-1 SHALLOW FLOW EQUALIZATION BASIN

Final Environmental Impact Statement
APPENDIX

U.S. Army Corps of Engineers
Jacksonville District

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APPENDIX J

CONSULTATION AND COMMENT LETTERS

RESPONSE TO COMMENTS

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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

REPLY TO ATTENTION OF

FEB 22 2013

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Seminole Tribe of Florida
Mr. Jim Shore
6300 Stirling Road
Hollywood, Florida 33024

Dear Mr. Shore:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

http://www.saj.usace.army.mil/Missions/Regulatory/ItemsofInterest.aspx

For your review, we have enclosed a paper copy and an electronic copy of the draft EIS, "*Everglades Agricultural Area A-1 Shallow Flow Equalization Basin*", prepared by the Corps, the Environmental Protection Agency, the Department of the Interior, and the U.S. Fish and Wildlife Service on behalf of the SFWMD. We welcome your comments on this draft EIS. This document is open for a 45-day comment period between February 22 and April 8, 2013. Due to time constraints, a response by April 8, 2013 would be most appreciated.

If you have any questions regarding the Regulatory action and review, have comments on the draft EIS, or requests for additional copies of the draft EIS, please contact Ms. Alisa Zarbo by phone at (561) 472-3506, by email at Alisa.A.Zarbo@usace.army.mil, or at the letterhead address. If you have any questions regarding the archaeological surveys please contact Mr. David Pugh by phone at (561) 472-3514 or by email at david.w.pugh@usace.army.mil.

Sincerely,

Leah Oberlin
Chief, Palm Beach Gardens Section

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

REPLY TO
ATTENTION OF

FEB 22 2013

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Seminole Tribe of Florida
Craig Tepper, Director
Environmental Resource Management Department
6300 Stirling Road, Suite 109
Hollywood, Florida 33024

Dear Mr. Tepper:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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Leah Oberlin
Chief, Palm Beach Gardens Section

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JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

REPLY TO
ATTENTION OF

FEB 22 2013

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Dr. Paul Backhouse
Tribal Historic Preservation Officer
Seminole Tribe of Florida
30290 Jose Billie Highway
PMP 1004
Clewiston, Florida 33440

Attn: Mr. Bradley Mueller

Dear Dr. Backhouse:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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Chief, Palm Beach Gardens Section

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JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

February 22, 2013

REPLY TO
ATTENTION OF

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Mr. Fred Dayhoff
THPO NAGPRA Rep
HC 61; SR Box 68
Old Loop Road
Ochopee, Florida 34141

Dear Mr. Dayhoff:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

February 22, 2013

REPLY TO
ATTENTION OF

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Miccosukee Tribe of Indians of Florida
Attn: Mr. James Erskine
Water Resource Acting Director
PO Box 440021
Tamiami Station
Miami, Florida 33144

Dear Mr. Erskine:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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Sincerely,

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Chief, Palm Beach Gardens Section

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PALM BEACH GARDENS, FL 33410

REPLY TO
ATTENTION OF

FEB 22 2013

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Ms. Lauren Milligan
Office of Intergovernmental Programs
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, Florida 32399-3000

Dear Ms. Milligan:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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Sincerely,

Leah Oberlin
Chief, Palm Beach Gardens Section

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

REPLY TO
ATTENTION OF

FEB 22 2013

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Mr. John Eddins
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, NW Suite 809
Washington, DC 20004

Dear Mr. Eddins:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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Sincerely,

Leah Oberlin
Chief, Palm Beach Gardens Section

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

REPLY TO
ATTENTION OF

February 22, 2013

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Dr. Timothy Parsons
Deputy State Historic Preservation Officer for Compliance and Review
Division of Historic Resources
R.A. Gray Building
500 Bronough Street, Room 423
Tallahassee, Florida 32399-0250

Dear Mr. Parsons:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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PALM BEACH GARDENS, FL 33410

February 22, 2013

REPLY TO
ATTENTION OF

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

South Florida Water Management District
Attn: Ms. Temperance Morgan
3301 Gun Club Road
West Palm Beach, FL 33406

Dear Ms. Morgan:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing the South Florida Water Management District's proposal to construct the A-1 Shallow Flow Equalization Basin (FEB) project in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FL 33410

February 22, 2013

REPLY TO
ATTENTION OF

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

U.S. Environmental Protection Agency, Region 4
Attn: Heinz Muller
61 Forsyth Street SW
Mail Code 9T25
Atlanta, Georgia 30303-8960

Dear Mr. Muller:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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PALM BEACH GARDENS, FL 33410

February 22, 2013

REPLY TO
ATTENTION OF

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

U.S. Department of the Interior
Attn: Joan Lawrence
FIU/SERC OE-165
11200 SW 8th Street
Miami, FL 33199-0001

Dear Ms. Lawrence:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is currently reviewing a proposal by the South Florida Water Management District (SFWMD) to construct the A-1 Shallow Flow Equalization Basin (FEB) project located in Palm Beach County, Florida. The project has been assigned file number 2005-00053(IP-AAZ). The proposed activities are described in the draft Environmental Impact Statement (EIS), which is posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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JACKSONVILLE DISTRICT CORPS OF ENGINEERS
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PALM BEACH GARDENS, FL 33410

February 22, 2013

REPLY TO
ATTENTION OF

Palm Beach Gardens Regulatory Office
SAJ-2005-00053(IP-AAZ)

Mr. Larry Williams, Field Supervisor
South Florida Ecological Services Office
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960

Dear Mr. Williams:

This letter refers to a request on behalf of the South Florida Water Management District (SFWMD) for Department of the Army (DA) authorization for construction and operation of the A-1 Shallow Flow Equalization Basin (FEB) project. The project has been assigned file number 2005-00053(IP-AAZ). The A-1 Shallow FEB project is located within waters of the United States (U.S.) on the former A-1 Reservoir project site in the Everglades Agricultural Area. The A-1 project site borders U.S. Highway 27 and the North New River Canal to the east, STA 3/4 to the south, and Holey Land Wildlife Management Area to the southwest. The project site includes 16,768 acres of land in Sections 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 35, and 36; Township 46 south; Range 37 east; and Section 31, Township 46 south, and Range 38 east in western Palm Beach County, Florida.

The U.S. Army Corps of Engineers (Corps) has completed an evaluation of the impacts the work may have on federally-listed threatened or endangered species. The Corps has determined that the proposed A-1 Shallow FEB project may affect, but is not likely to adversely affect the Audubon's crested caracara (*Polyborus plancus audubonii*), the wood stork (*Mycteria americana*), the Florida panther (*Puma concolor coryi*), and the Everglades snail kite (*Rostrhamus sociabilis plumbeus)*, and may affect the eastern indigo snake (*Drymarchon corais couperi*). The proposed project would not adversely modify the designated critical habitat for the Everglades snail kite. The Corps hereby requests initiation of formal consultation pursuant to Section 7 of the Endangered Species Act. In accordance with guidance provided in the Endangered Species Consultation Handbook, the Corps requests that you initiate consultation upon receipt of this request or provide a response within 30 days of receipt of this request stating what information is necessary to meet the requirements of 50 CFR §402.14(c). Upon your initiation of formal consultation, please provide this office with an expected completion date so that we may inform the applicant of the associated timeframes. The following information is provided in accordance with 50 CFR §402.14(c):

a. Description of the activity: The project is as described in the enclosed advance copy of the public notice and in the draft Environmental Impact Statement, "*Everglades Agricultural Area A-1 Shallow Flow Equalization Basin.*"

b. Area affected: The area affected includes the A-1 project site, Stormwater Treatment Area 2 and 3/4, and Water Conservation Areas 2A and 3A.

c. Listed species affected: eastern indigo snake, the Audubon's crested caracara, the Everglades snail kite, the wood stork, and the Florida panther.

d. Analysis: The Corps determined that the proposed A-1 Shallow FEB project may affect, but is not likely to adversely affect the Audubon's crested caracara (*Polyborus plancus audubonii*), the wood stork (*Mycteria americana*), the Florida panther (*Puma concolor coryi*), and the Everglades snail kite (*Rostrhamus sociabilis plumbeus)*, and may affect the eastern indigo snake (*Drymarchon corais couperi*). The proposed project would not adversely modify the designated critical habitat for the Everglades snail kite. The analysis for this determination is presented in the attached Biological Assessment for the A-1 Shallow FEB.

e. Relevant reports. Draft EIS for the A-1 Shallow Flow Equalization Basin and the Biological Assessment for the A-1 Shallow FEB, both of which are enclosed.

For your review, we have enclosed a paper copy and an electronic copy of the draft EIS, which was prepared by the Corps, the Environmental Protection Agency, the Department of the Interior, and the U.S. Fish and Wildlife Service on behalf of the SFWMD. This document is open for a 45-day comment period between February 22 and April 8, 2013. The project is also posted on the Corps, Jacksonville District's website under the heading "South Florida Water Management District" at:

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We welcome your comments on this draft EIS and look forward to your response for our request to initiate consultation. If you have any questions or comments regarding the project or requests for additional copies of the draft EIS, please contact Ms. Alisa Zarbo by phone at (561) 472-3506, at the letterhead address, or by email at Alisa.A.Zarbo@usace.army.mil.

Sincerely,

Leah Oberlin
Chief, Palm Beach Gardens Section

Enclosure(s)

1.0 PROJECT DESCRIPTION

The South Florida Water Management District is proposing to construct a 15,000-acre shallow FEB with a maximum operating depth of approximately 4 feet. Construction of the Shallow FEB would result in impacts to 537 acres of waters of the United States (U.S.) to include 296.5 acres of fill to construct the levee and 164.5 acres of fill to raise the elevation of canals and ditches, as well as the discharge of fill material associated with canal excavation into 75.8 acres of waters of the U.S. Over 10,500 acres of waters of the U.S. would be inundated.

The Shallow FEB would include the following components:

- Perimeter Levees around the FEB (>20 miles; 8-10 feet levee heights for 4 feet maximum operating depth)
- Interior levees to convey inflows to the north end of the FEB (8.7+/- miles)
- Internal collection canal to assist in conveying water out of the FEB
- Operable water control structures to control FEB water levels and flows into and out of the FEB
- Seepage canal and pump station(s) to collect FEB seepage and return to FEB/STA 3/4
- Degradation of portions of major agriculture roads
- Demolition of the existing test cells
- Demolition of the existing Talisman and Cabassa pump stations

The site contains 1,200 foot wide areas that have been scraped down to the cap rock along the perimeter of the site that would be incorporated as a flow path into the interior footprint of the Shallow FEB. By utilizing the available scraped down area as a flow path, it has been determined by the SFWMD, based on preliminary hydraulic analyses, that the existing pump stations G-370 and G-372 currently have the capability to deliver flows to the north end of the FEB.

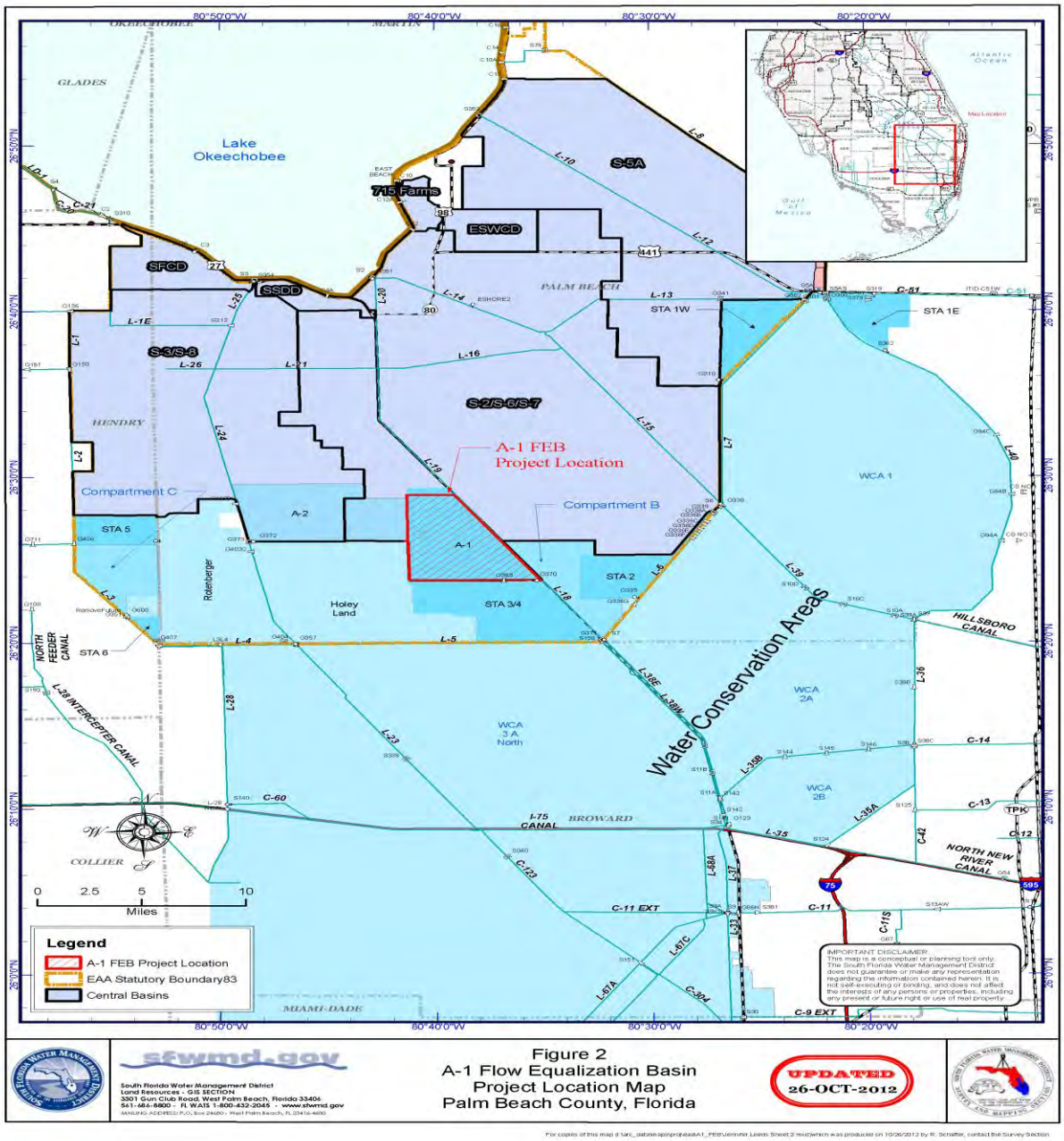
1.1 Interrelated and Interdependent Actions

The Shallow FEB will be operated in series with (upstream of) STA 2 and STA 3/4. Inflows would be conveyed to the Shallow FEB from the Miami Canal via the existing pump station G-372 and from the North New River Canal via existing pump station G-370. Two operable water control structures will be constructed to control FEB water levels and flows into and out of the FEB; one at the existing pump station G-370 at the North New River Canal and one at the existing pump station G-372 to collect runoff from the Miami Canal. To send water to STA 3/4, operable water control structures may also be constructed to allow discharges to be conveyed via gravity directly to the STA 3/4 inflow canal. To send water to STA 2, water would be pumped into STA 2 into the Hillsboro Canal by the S-6 pump station and into the North New River Canal by the G-434 and G-435 pump stations. The majority of the shallow FEB outflows (approximately 80%) would be directed to STA 3/4 for treatment while the remaining flows (approximately 20%) would be conveyed to STA 2 (including Compartment B). Water exiting the STAs would enter the Water Conservation Areas 2A and 3A. No changes to the structural

components of the water management systems would be required for water inflows into STA 2, STA 3/4, WCA 2A, WCA 3A, or Holey Land.

The Biological Assessment evaluates the potential direct impacts to federally-listed protected species within the footprint of the proposed STAs, the indirect effects from construction and operation, the downstream effects in STA 2, STA 3/4, WCA 2A and WCA 3A as a result from the change in water discharges, and the cumulative effects of the proposed project and future planned projects. Determinations have been made for each federally-listed species and their designated critical habitats that have the potential to be affected by the project.

Figure 1-1. Regional Map Indicating the Location of the A-1 Project Site



2.0 LISTED SPECIES REVIEW

The A-1 project site was evaluated for potential occurrences of federal and state listed protected plant and animal species in accordance with Section 7 of the Endangered Species Act of 1973 (as amended) and Chapters 5 and 68 of the Florida Administrative Code. Literature searches and a habitat field review were conducted to identify protected species and any critical habitat that might be expected to occur within the project study area.

The reviews and database searches included the following:

- U.S. Fish and Wildlife Service, *Endangered and Threatened Wildlife and Plants*, 50 CFR 17.11 and 17.12, 2007;
- Florida Fish and Wildlife Conservation Commission, June 2006, Florida's Endangered Species, Threatened Species, and Species of Special Concern;
- Florida Fish and Wildlife Conservation Commission, Eagle Nest Locator website (http://wld.fwc.state.fl.us/eagle/eaglenests/Default.asp);
- Rules for the Department of Agriculture and Consumer Services, Division of Plant Industry, Chapter 5B-40, Preservation of Native Flora of Florida, 2007;
- Florida Natural Areas Inventory (FNAI) maps and database; http://www.fnai.org/trackinglist.cfm
- U.S. Department of Agricultural, Natural Resources Conservation Service (NRCS), Soil Survey of Palm Beach County, Florida, 1978;
- U.S. Department of Agricultural, Natural Resources Conservation Service (NRCS), Soil Survey of Hendry County, Florida, 1990;
- U.S. Geological Survey (USGS), Topographic Quadrangle Map, 1:250,000, West Palm Beach, 1972;
- U.S. Fish and Wildlife Service, National Wetlands Inventory, Wetlands Online Mapper (June 2006); http://wetlandsfws.er.usgs.gov/wtlnds/metadata/metadata.htm
- U.S. Fish and Wildlife Service (USFWS), Classification of Wetlands and Deepwater Habitats of the United States, (Cowardin, *et. al*. 1979);
- NatureServe website; and
- U.S. Fish and Wildlife Service (USFWS) website

2.1 PROTECTED SPECIES OBSERVED

A-1 Project Site

In October and December of 2012, the Florida Department of Environmental Protection, the Environmental Protection Agency, the U.S. Fish and Wildlife Service, the South Florida Water Management District and the U.S. Army Corps of Engineers (which did not attend the December site visit) conducted a site visit on the project site. The project site currently supports habitat

utilized by threatened or endangered species, in particular the eastern indigo snake, the Audubon's crested caracara, the wood stork, and the Florida panther.

Eastern indigo snakes were reported in the project area from 2006 – 2011. Currently, the former agricultural lands have converted back to wetland vegetation. Since the eastern indigo snake is typically found in upland areas, it is anticipated that eastern indigo snakes may be found in and around the levees and berms. In the sugar cane fields of the former A-I Reservoir project site, eastern indigo snakes have been observed (including one mortality) during earthmoving and other construction-related activities.

The project site is located within a USFWS Audubon crested caracara consultation area. The USFWS SLOPES defines the primary protection zone for the species as 985 feet outward from a nesting tree with a secondary zone 6,600 feet from an active nesting tree. There are no known nest sites located within 6,600 feet of the project site, as the nearest nest, documented in 2007, is over 20 miles northwest. The nearest documented occurrence was 12.6 miles southwest of the project area.

The freshwater wetlands serve as foraging habitat for the wood stork. Although the nearest active wood stork colony is located over 25 miles away, wood stork are observed on the site.

Within the project area, there has been no panther focus area (based on telemetry point density) designated. However, within a 10 mile buffer area, 19,688 acres have been identified as a primary panther zone and 101,350 acres have been identified as secondary panther zone (USFWS GIS database, 2012). Therefore, it is anticipated that panthers may hunt on the project site, but it is unlikely that they would use these areas for any extended length of time because of the lack of suitable long-term panther habitat (URS 2007). In addition, the site borders the eastern extent of the panther's secondary zone. No Florida panthers have been sighted on the property; however, they have been documented in the area.

Stormwater Treatment Areas 2 and 3/4

The eastern extent of STA 2 is within the core foraging area of four wood stork colonies, and the wood storks have been documented to utilize the wetlands within the both STAs. The southeast corner of STA 3/4 also falls within the 18.6 mile buffer area of a wood stork colony.
The levees and berms may provide habitat for the eastern indigo snake. Alligators are present within both STAs. Although it was originally anticipated that the Everglades snail kites would only forage in the STAs, there have been documented reports that the snail kites nested within STA 3/4 in 2011 and have begun nesting in STA 1E (USFWS GIS database, 2012) so there is a possibility that the snail kites could nest in the STAs.

Water Conservation Areas

Federally protected species occurring in the WCAs 2A and 3A include many of the protected species in the South Florida region including the American alligator, wood stork, Audubon's crested caracara, Everglades snail kite, Florida panther, and possibly the Eastern indigo snake. The WCAs also have designated critical habitat for the Everglades snail kite in WCA 2 and WCA 3, and support several successful nests.

3.0 FEDERALLY-LISTED SPECIES AND SUITABLE HABITAT DESCRIPTIONS

The federal endangered, threatened, and species of special concern list is maintained by the USFWS and the NOAA-NMFS in accordance with the Endangered Species Act (ESA). In the ESA, "endangered" species are in danger of extinction throughout all or a significant portion of its range, "threatened" species are likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and "species of special concern" might need concentrated conservation actions.

3.1 RANGE-WIDE FEDERALLY-LISTED SPECIES

The geographic regions considered in the analysis of threatened and endangered species include the proposed A-1 project site as well as the downstream areas affected by the operations of the shallow FEB. Because the A-1 Shallow FEB will be operated in close coordination with the existing STA 2 and STA 3/4, which currently discharges into WCA 2A and WCA 3A respectively, then STA 2, STA 3/4, WCA 2A and WCA 3A will be included in the areas evaluated for the potential effects to federally listed species.

The federally-listed species that use or have the potential to use the habitats mentioned above include the Florida panther, the Audubon's crested caracara, the Everglade snail kite, the wood stork, and the eastern indigo snake. These are listed in Table 1-1, followed by descriptions of each species. The American alligator is discussed because the species is listed in Florida as "threatened due to similarity of appearance" because of its similarity to the endangered American crocodile. However, consultation is not needed for the alligator since it is not threatened or endangered.

Table 1-1. List of Federally Protected Species and Critical Habitat may occur on the project site

Federal Listing Status **Common Name**	**Scientific Name**	**Designated Status**
Reptiles		
American alligator	*Alligator mississippiensis*	*Threatened
Eastern indigo snake	*Drymarchon coaris couperi*	Threatened
Birds		
Audubon's crested caracara	*Caracara plancus audubonii*	Threatened
Everglade snail kite	*Rostrhamus sociabilis plumbeus*	Endangered
Wood stork	*Mycteria Americana*	Endangered
Mammals		
Florida panther	*Puma concolor coryi*	Endangered

* Threatened due to Similarity of Appearance with the American crocodile

3.1.1 American Alligator

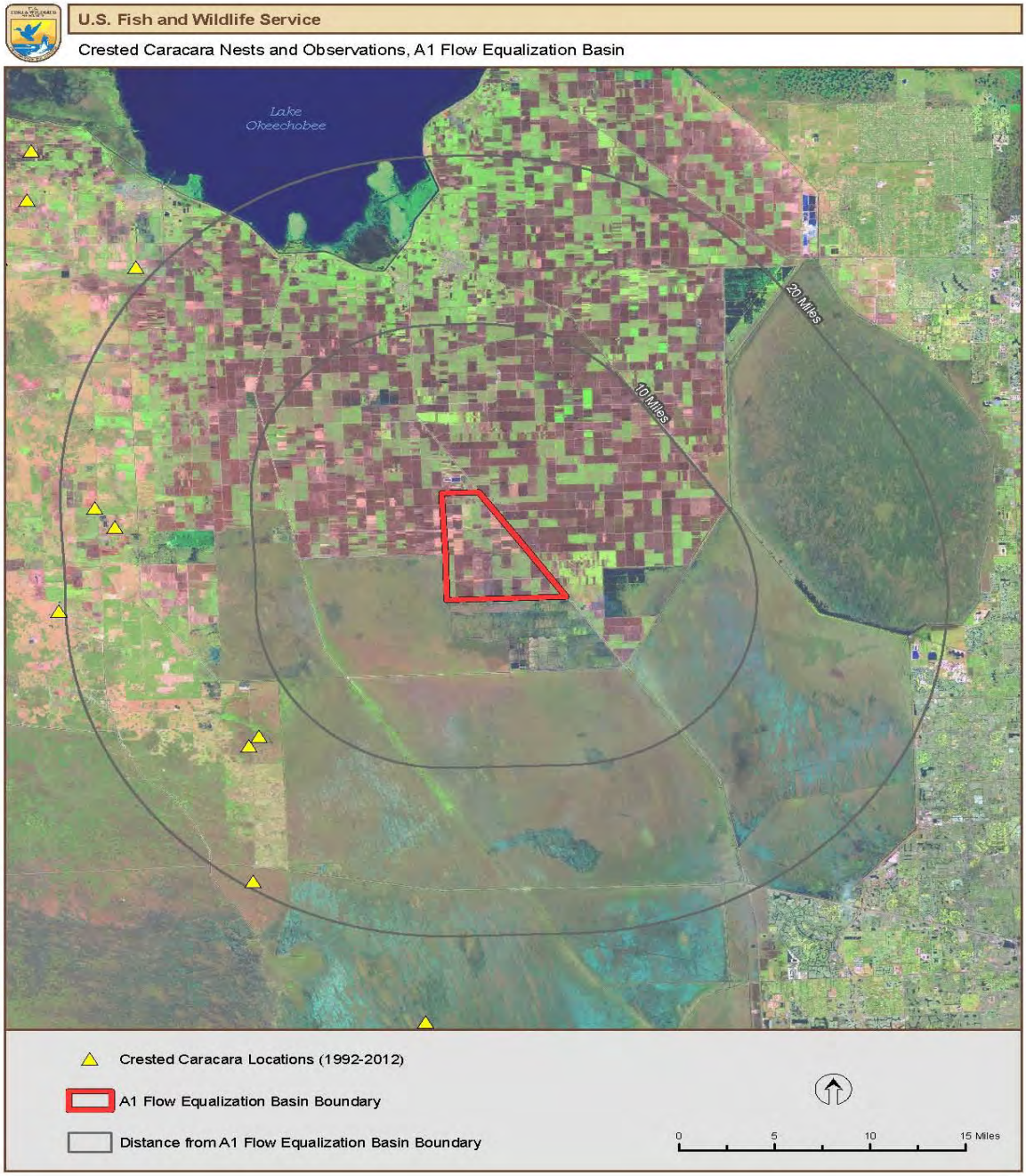
The American alligator (*Alligator mississippiensis)* is a large, carnivorous reptile related to crocodiles that inhabits freshwater lakes, ponds, marshes, sloughs, swamps, canals and, occasionally, brackish waters throughout the southeastern United States. It is commonly seen on canal banks throughout the EAA and in the WCAs.

In 1985, alligators were down-listed in Florida from "threatened" to status of "threatened due to similarity of appearance" because of its similarity to the endangered American crocodile (*Crocodylus acutus*). A distinguishing characteristic from the American crocodile, a close relative, is that only the upper teeth are visible with the alligator's mouth closed, while both the upper and lower teeth are visible on the American crocodile. The listing "threatened due to similarity of appearance" is defined for species that are not currently biologically threatened but that are believed likely to become endangered in the future (50 CFR Part 17). Therefore, no coordination is needed for this species.

3.1.2 Audubon's Crested Caracara

The Audubon's crested caracara (*Polyborus plancus audubonii*) is federally listed as threatened. It is a large non-migratory raptor with its overall distribution including the southern United States, Mexico, and Central America to Panama. In Florida, the most abundant populations of crested caracara are in Glades, Desoto, Highlands, Okeechobee, and Osceola counties, all of which are located north and west of Lake Okeechobee (USFWS 1999). Caracaras are most commonly found in dry or wet prairies with occasional cabbage palms (*Sabal palmetto*) or scattered wooded vegetation. Prey include insects and other small invertebrates, small mammals, reptiles, and fish. Because of changes in land use, the crested caracara also now uses improved or semi-improved pastures (USFWS 1999). The primary threat to the crested caracara is in the conversion from dried prairies to agriculture and development. The project site is located within a USFWS crested caracara consultation area. See **Figure 3-18** for the nearest documented occurrence of the Audubon's crested caracara in relation to the project site.

Figure 5-2. Audubon's Crested Caracara Locations



3.1.3 Eastern Indigo Snake

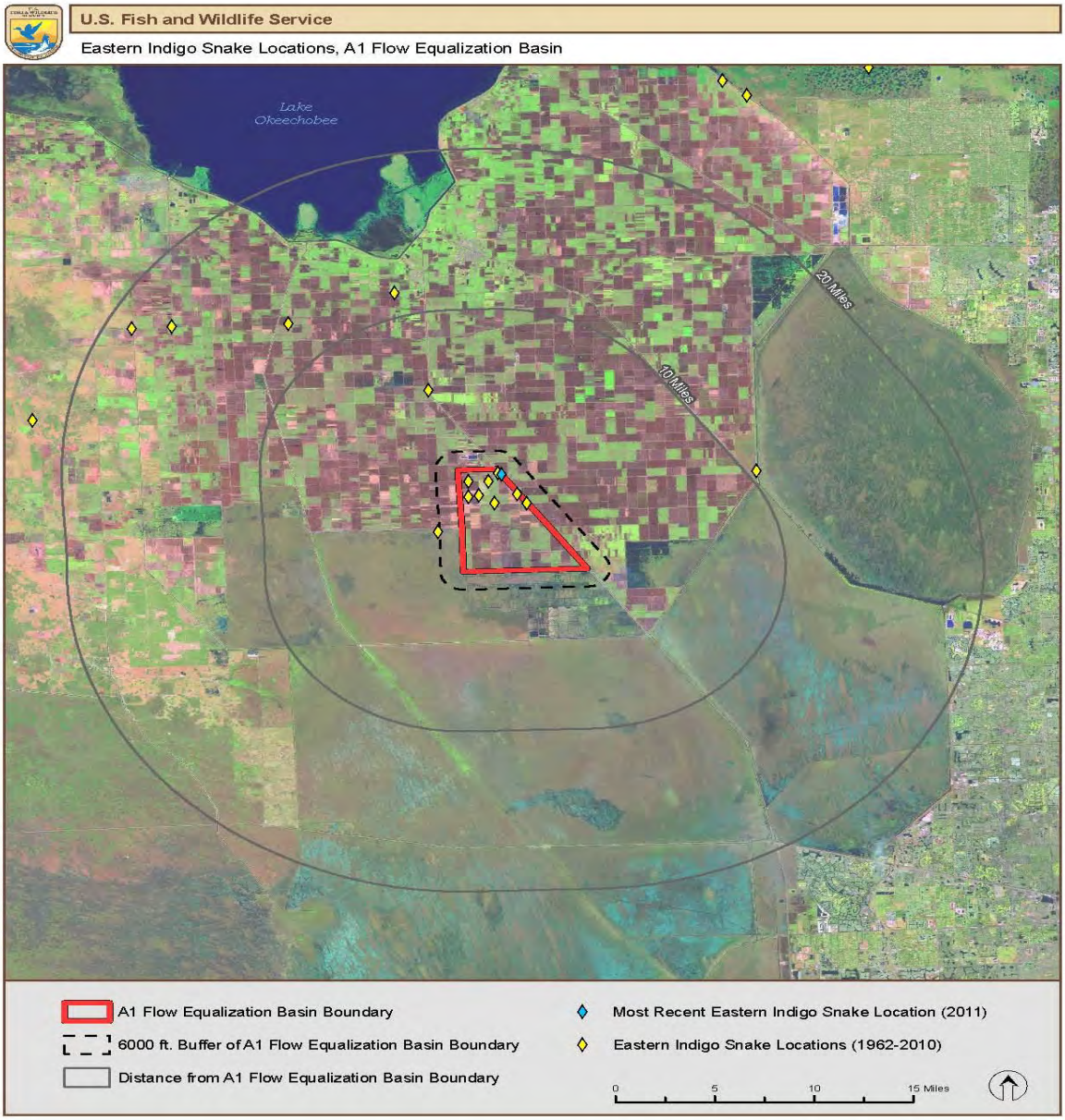
The eastern indigo snake (*Drymarchon corais couperi*) is federally listed as threatened. It is a large, black, non-venomous snake that reaches lengths up to of 265 cm (Ashton and Ashton 1981). Its historical range extended throughout Florida and the coastal plains of Mississippi, Alabama, and Georgia (USFWS 1999).

The eastern indigo snakes preferred habitats are uplands (flatwoods, dry prairies, tropical hardwood hammocks, and coastal dunes). They are not usually found in Everglades wetlands (Steiner and others 1983), but can be found on the edges of freshwater marshes and in agricultural fields (USFWS 1999). They are extremely susceptible to desiccation and cold. In dry, cold habitats (Georgia, Alabama, and the Florida panhandle), eastern indigo snakes depend on the holes of the gopher tortoise (*Gopherus polyphemus*), which provide protection from cold and dry conditions (Layne and Steiner 1996). Throughout the warmer environment of peninsular Florida, eastern indigo snakes may exist in any terrestrial habitats with low urban development (USFWS 1999). They frequently use natural holes, gopher tortoise burrows, trash piles and the like even in warmer south Florida. They use a variety of food sources including fish, frogs, toads, lizards, turtles and their eggs, small alligators, birds and small mammals (USFWS, 1999).

Initially, the population decline of eastern indigo snakes was from over-collecting for the pet trade (43 FR 4028), but current major threats to the eastern indigo snake include loss and fragmentation of habitat from increased development (USFWS 1999). Other threats to the eastern indigo snake associated with development include increased mortality from vehicular collisions, domestic pets, and people, and pesticides (USFWS 1999).

Eastern indigo snakes range over large areas and use various habitats throughout the year, with most activity occurring in the summer and fall (Smith 1987; Moler 1985a). Adult males have larger home ranges than adult females and juveniles; their ranges average 554 acres (Moler 1985b). In contrast, a gravid female may use from 3.5 to 106 acres (Smith 1987). In Florida, home ranges for females and males range from 5 to 371 acres and 4 to 805 acres, respectively (Smith 2003). At the Archbold Biological Station (ABS), average home range size for females was determined to be 47 acre and overlapping male home ranges to be 185 acre (Layne and Steiner 1996).

Figure 3-17 Eastern Indigo Snake Sightings



3.1.4 Everglade Snail Kite

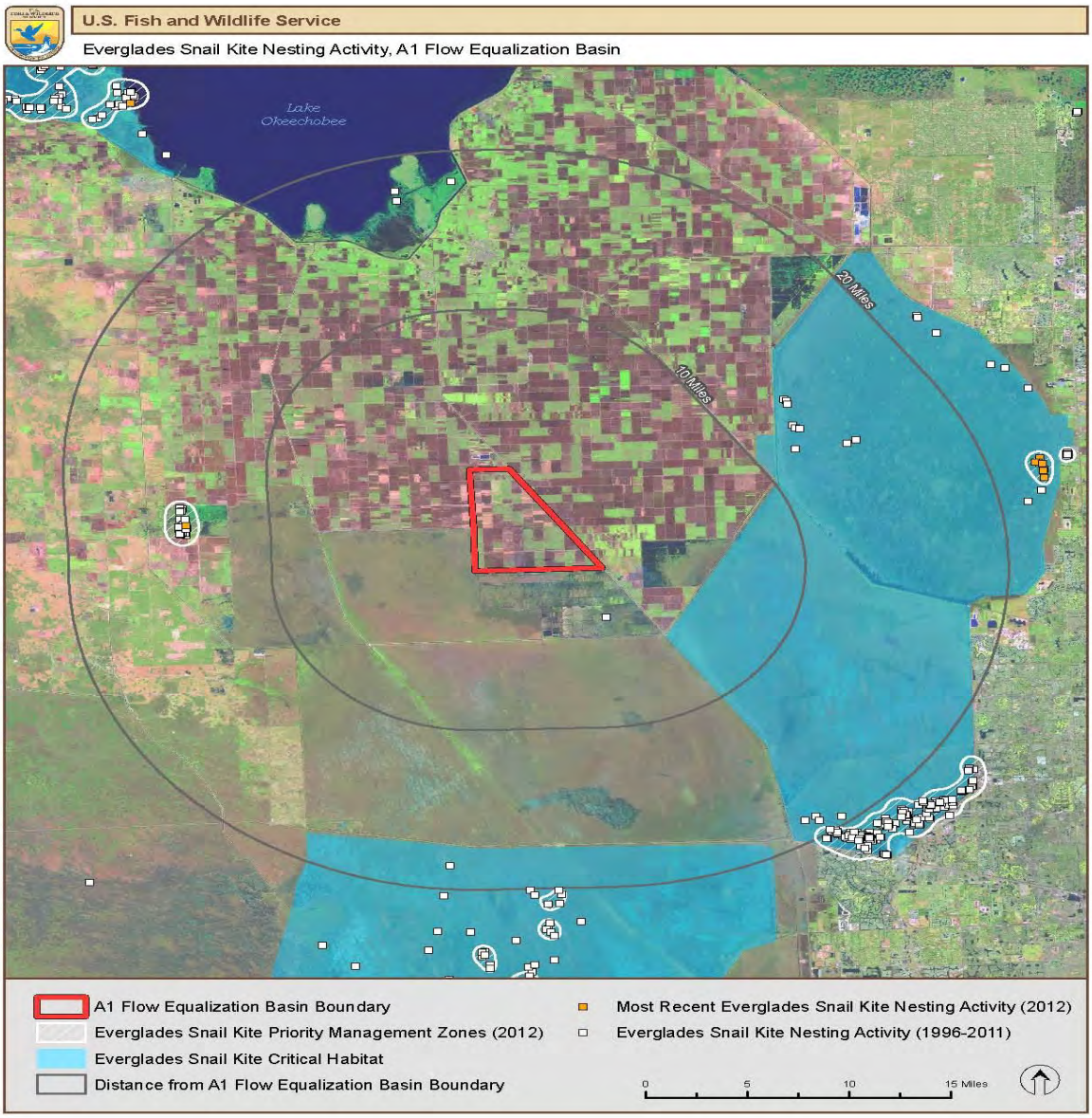
The endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*) is a medium sized raptor that feeds almost entirely on apple snails (*Pomacea paludosa*) which are found in palustrine emergent, long hydroperiod wetlands (USFWS, 1999). The snail kite's foraging habitat is restricted to clear, calm waters of freshwater marshes and shallow vegetated littoral zones of lakes in South and Central Florida including Palm Beach and Hendry Counties. Snail kites require small trees or shrubs near foraging areas as nest sites and shallow inundated areas to sustain their food source, apple snail.

Apple snails inhabit a wide range of ecosystems from swamps, ditches and ponds to lakes and rivers. Apple snails eat, feed, breed, and lay eggs on emergent vegetation in waterbodies that are flooded continuously for longer than 1 year (USFWS 1999). Changes in water regimes and depth and duration of inundation are important characteristics for wetland vegetation that supports snail kite nesting and foraging habitat, Florida apple snails, and all aspects of snail kite and apple snail life history. Rapid and/or large increases in water depth may detrimentally affect desirable vegetation, and can flood out Florida apple snail eggs, leading to reductions in apple snail populations and reduced snail kite foraging (USFWS 2006).

Designated critical habitat for the snail kite exists on the western side of Lake Okeechobee and portions of the EPA, including WCA 1, WCA 2 and WCA 3A. Snail kites are also found in Holey Land. Wood storks and snail kites have overlapping ranges, but different feeding mechanisms and require different hydrologic conditions for optimum feeding. Historically, both have survived with the hydrologic variability characteristic of the natural system. The reduced heterogeneity and extent of natural area of the present system make the snail kites more vulnerable to natural and human-caused threats (USFWS, 1999).

Loss and degradation of habitat are the primary threat to snail kites. Water levels, duration, and quality are primary concerns in Everglade snail kite conservation. Water levels must allow for appropriate nesting sites, durations of water levels must be sufficient to support apple snail populations, and water quality must be such that invasive species do not take over Everglade snail kite foraging habitat (USFWS 1999). The project site, the STAs and WCAs are all within Everglade snail kite USFWS consultation area. The nearest nest to the project area, recorded in 2011, was located approximately 3 miles from the A-1 project site (**Figure 3-19**). The most recent nests, recorded in 2012, were located 14.1 miles to the west and 22.3 miles to the east (WCA 1).

Figure 3-19 Everglades Snail Kite Nesting Activity



Source: URS 2007c

3.1.5 Florida Panther

The Florida panther (*Puma concolor coryi*), a medium-sized tawny-colored long-tailed puma, is one of the most federally listed endangered land mammal. At one time, the panther's range extended through Arkansas, Louisiana, Mississippi, Alabama, Georgia, Southern Tennessee, South Carolina, and Florida. Today, the only existing population is found in a two million acre area in central and South Florida with population estimates of only 80 total individuals, 30 to 50 adults and approximately 30 subadults (USFWS 1999). The Big Cypress Swamps/Everglades has the only known breeding panther population (USFWS 1999).

The Florida panther, a subspecies of the mountain lion, is Florida's designated state mammal. Male panthers weigh 102 to 154 pounds and reach 7 feet in length, while the smaller females weigh 50 to 108 pounds and reach 6 feet in length (Roelke 1990). Panther's preferred habitats are hardwood hammocks and pine flatwoods, but they can also be found in wetlands and disturbed habitat (USFWS 1999). The panther diet includes feral hogs (*Sus scrofa*), white-tailed deer *(Odocoileus virginianus)*, raccoon (*Procyon lotor*), and armadillo (*Dasypus novemcinctus*) (Maehr *et. al.* 1990).

Habitat loss and fragmentation from development are the largest threat to panthers and have lead to inbreeding, reduced prey availability, and mortality from vehicle strikes. An individual panther range may extend on average 200 square miles for males and 74 square miles for females (Land 1994). The panther's wide-range recovery plan cites three conditions necessary for the survival and recovery of the species: (1) protection and enhancement of existing populations, habitats, and prey resources; (2) improving genetic health and population viability; and (3) re-establishing a minimum of two more reproducing populations within the historical range. Panther telemetry data from 1981 to 2005 show panthers in the EAA, including areas directly adjacent to the project site and in WCA 3A (USFWS 2006). Based on the USFWS' GIS Database, **Figure 3-21** depicts the panther telemetry data from 1997 through 2011 while **Figure 3-22** indicates recent occurrences in the area.

Figure 3-21 Panther Telemetry

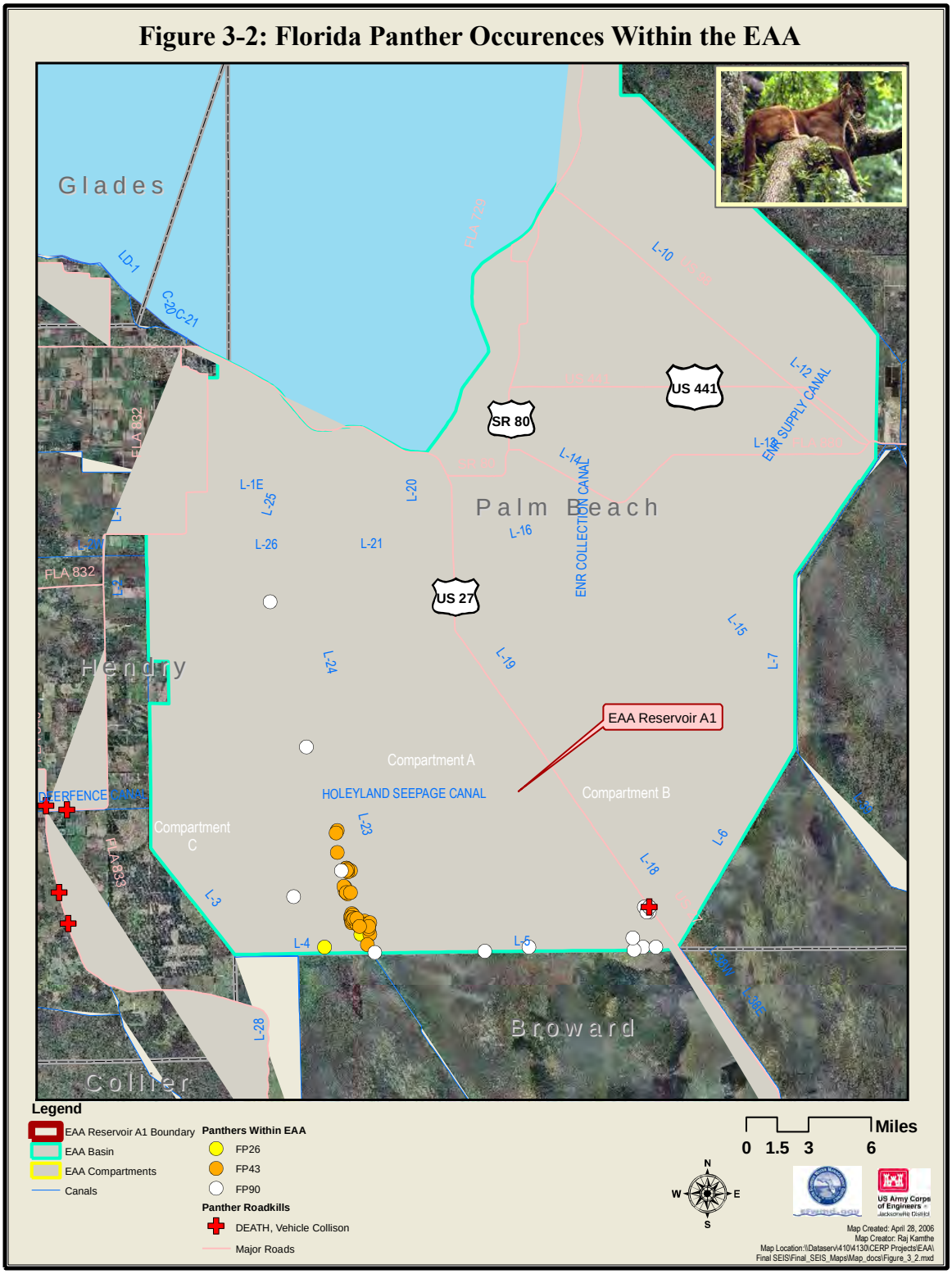
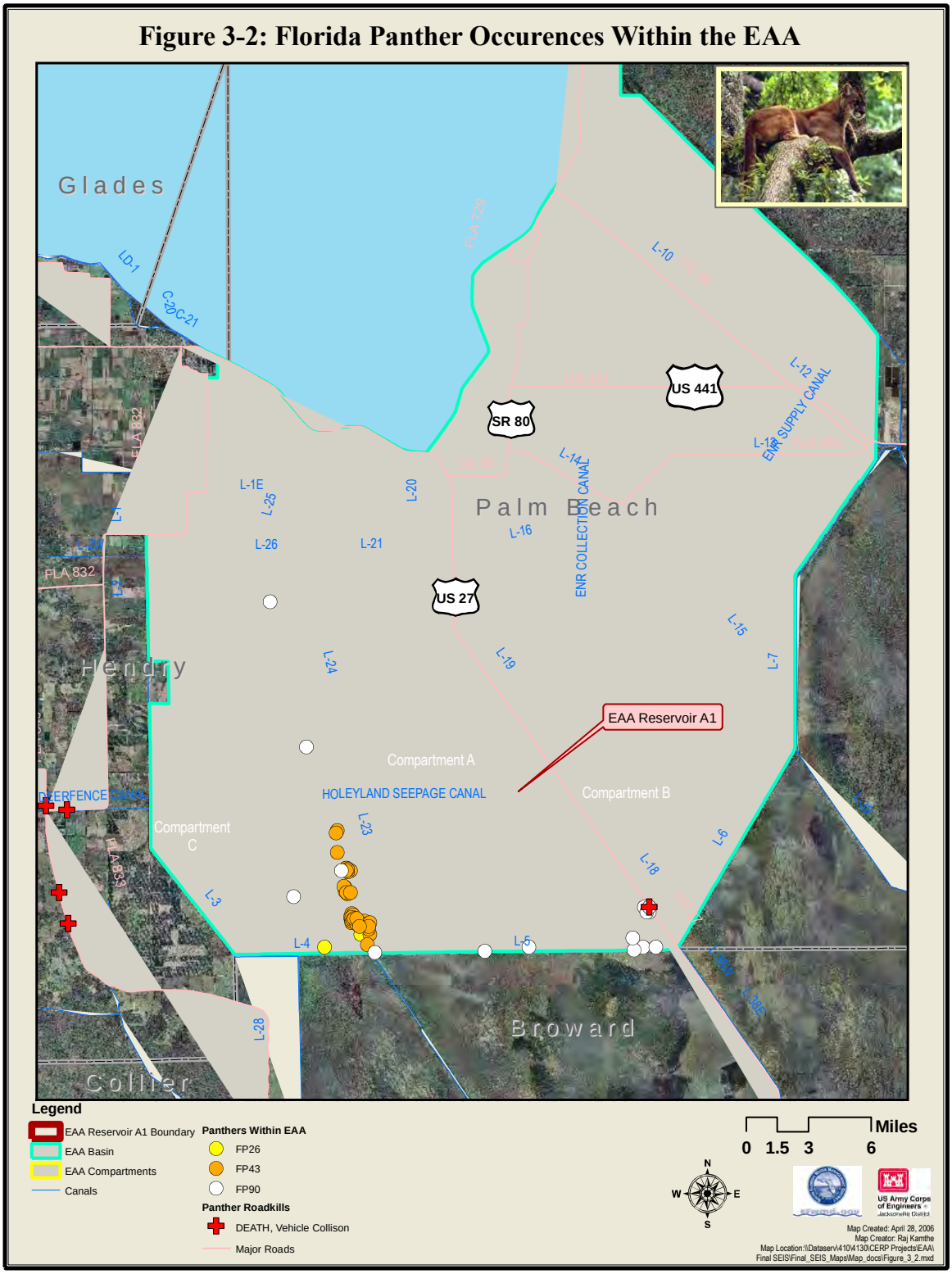


Figure 3-22 Panther Occurrences within the EAA

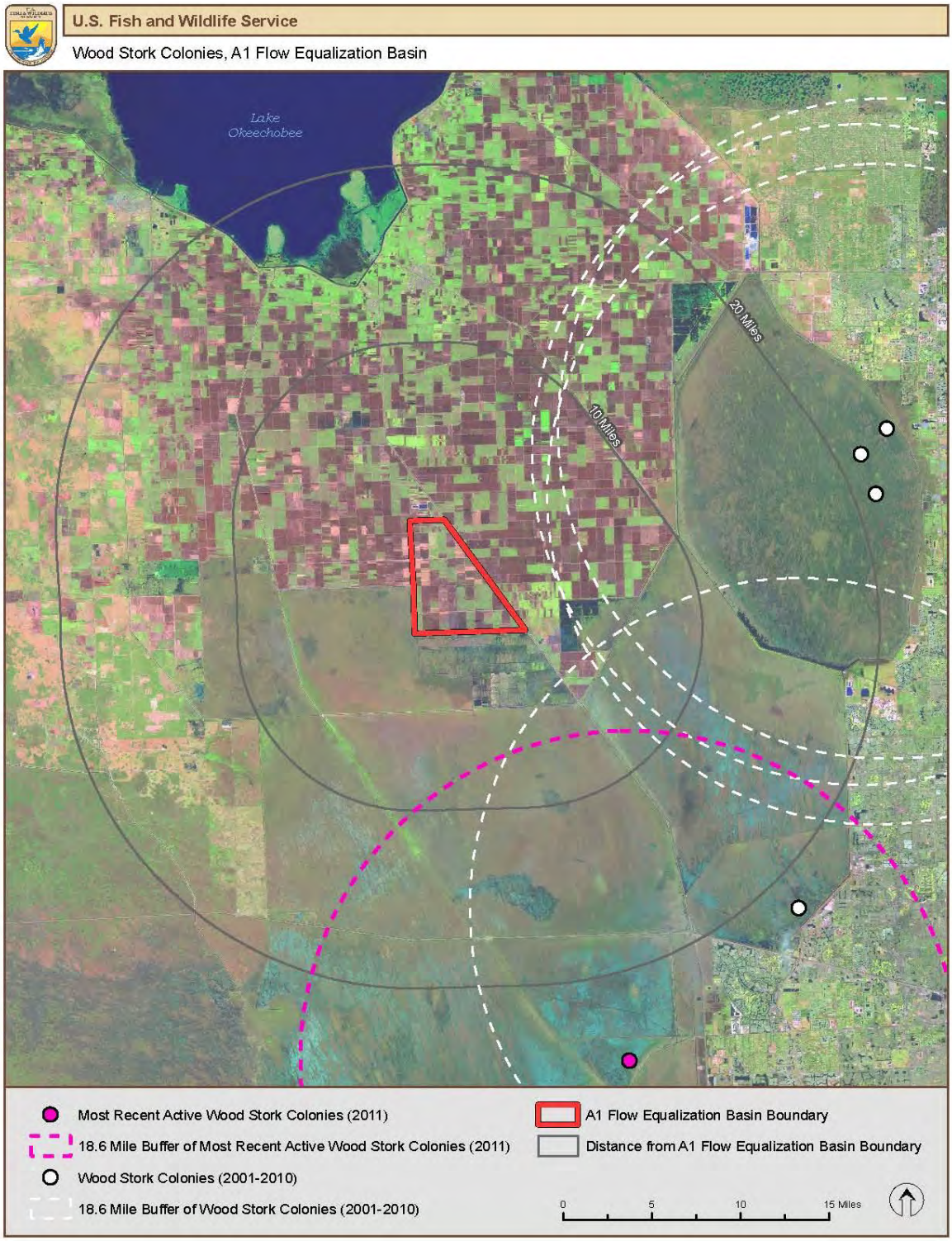


3.1.6 Wood Stork

The endangered wood storks (*Mycteria Americana*) are tall, long-legged wading birds that utilize a variety of freshwater and estuarine wetlands (USFWS 1999) including shallow freshwater wetlands, canals, and ditches to catch prey. Historically, breeding colonies existed in coastal states from Texas to South Carolina, but today breeding colonies are limited to Georgia, Florida, and coastal South Carolina (USFWS 1999). Their non-breeding season range extends throughout the continental United States.

The timing, duration, and quantity of water affect wood stork distribution for two reasons: shallow waters with high prey densities are needed for feeding; and they prefer nesting sites surrounded by deep water. The primary prey of wood storks is small fish. During feeding, wood storks immerse their bill, partly open, in water and snap it shut when it contacts a prey item (Kahl 1964, as cited in USFWS 1999). This feeding behavior, known as tactolocation or grope feeding, requires high prey concentrations found after drying events that concentrate fish to smaller areas. Nesting colonies of wood storks are usually established in stands of medium to tall trees, such as cypress stands or mangrove forests, surrounded by deeper water marshes (Palmer 1962; Rogers and others 1996; and Ogden 1991, as cited in USFWS 1999). These areas provide protection from terrestrial predators. Core foraging areas include an 18.6-mile radius around breeding colonies (USFWS SLOPES). The nearest active colony reported in 2009 is located 21.2 miles from the A-1 project site (**Figure 3-20**). Documented in 2011, the most recent active colony is 25.0 miles south of A-1 project site (USFWS GIS database, 2012).

Figure 3-20 Wood Stork Colonies



3.2 AREAS OF SPECIAL INTEREST

Several species of plants and animals are not federally listed on the threatened and endangered list, but still will be considered as areas of special interest. Those species include wading birds and wading bird rookeries, migratory birds, the bald eagle, burrowing owls, gopher tortoise and the Florida black bear. Each is described below.

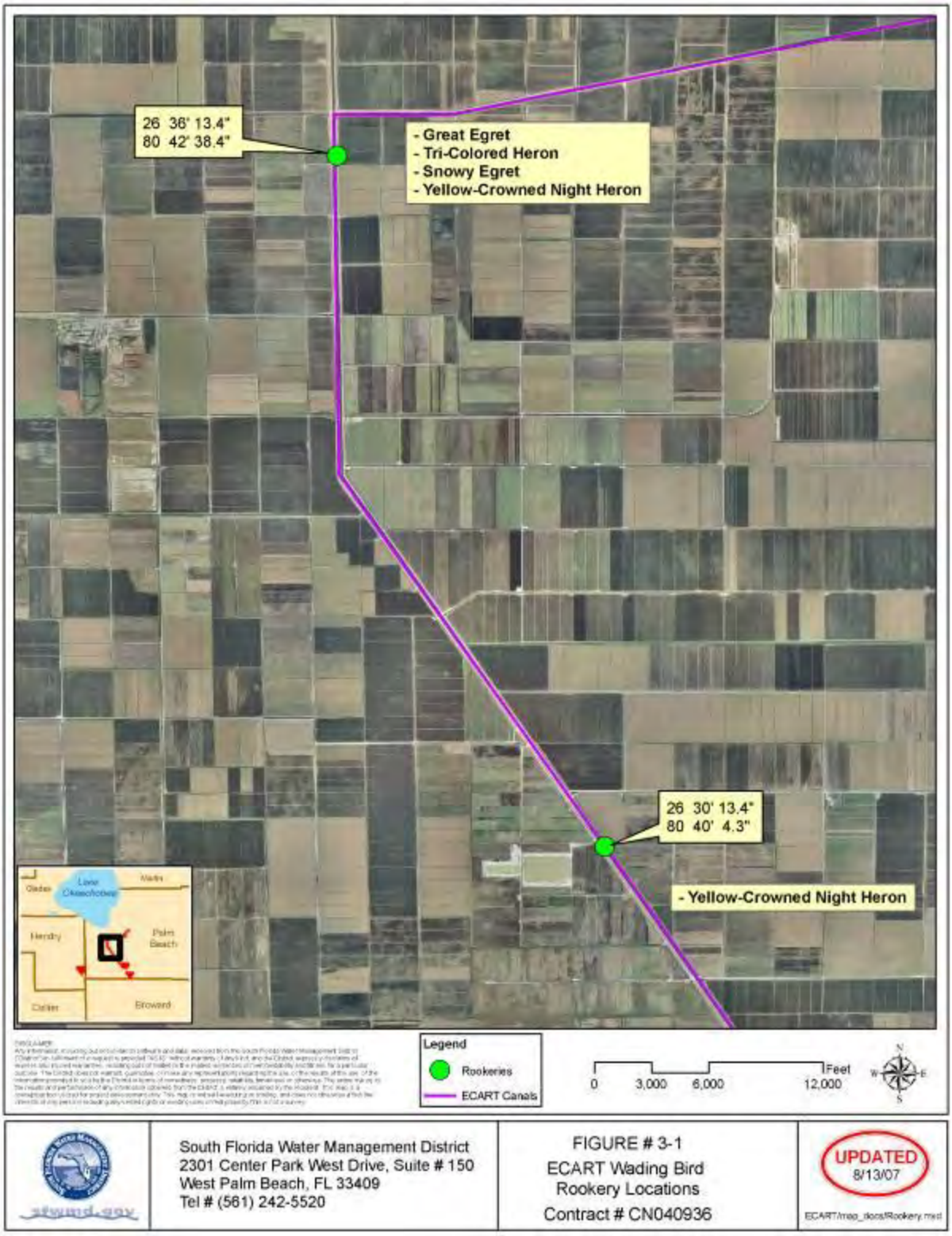
3.2.1 Wading Birds and Wading Bird Rookeries

Wading birds nest in suitable areas throughout the affected project area; however, no wading bird nests were observed in the A-1 project site during the surveys for the 2012 field report. Two bird rookeries were identified within the North New River Canal, which is west and north of the Compartment B build-out (see **Figure 5-10**). One rookery contained multiple species, including tricolored heron, snowy egret, great egret, and yellow-crowned night heron, but the other contained only yellow-crowned night heron. There is a supercolony of white ibis in the WCA 1.

3.2.2 Migratory Bird

The A-1 project site supports migratory birds. Migratory birds are of great ecological and economic value to this country and to other countries. They contribute to biological diversity and bring tremendous enjoyment to millions of Americans who study, watch, feed, or hunt these birds throughout the United States and other countries. The United States has recognized the critical importance of this shared resource by ratifying international, bilateral conventions for the conservation of migratory birds. These migratory bird conventions impose substantive obligations on the United States for the conservation of migratory birds and their habitats, and through the Migratory Bird Treaty Act (Act), the United States has implemented these migratory bird conventions with respect to the United States. Executive Order 13186 of January 10, 2001 directs executive departments and agencies to take certain actions to further implement the Act. As stated in Executive Order 13186, each agency shall, to the extent permitted by law and subject to the availability of appropriations and within budgetary limits, (1) support the conservation intent of the migratory bird conventions and avoid or minimize impacts on migratory bird resources, (2) restore and enhance the habitat of migratory birds, as practicable, (3) prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable, (4) design migratory bird habitat and population conservation principles, measures, and practices into agency plans and planning processes as practicable and coordinate with other agencies and nonfederal partners, (5) ensure that agency plans and actions promote programs of comprehensive migratory bird planning efforts, (6) ensure environmental analysis of Federal Actions required by NEPA evaluate the effects of actions on migratory birds with emphasis on species of special concern, (7) provide notice to the USFWS in advance of conducting an action that is intended to take migratory birds, (8) minimize the intentional take of species of concern, and (9) identify where unintentional take reasonable attributable to agency actions is having or is likely to have a measurable negative effect on migratory bird populations. For a complete list of the requirements in the Executive Order, please refer to the Presidential Documents, Federal Register, Volume 66, Number 11 dated January 17, 2001 *Responsibilities of Federal Agencies to Protect Migratory Birds.*

Figure 3-10 Wading Bird Rookery Locations



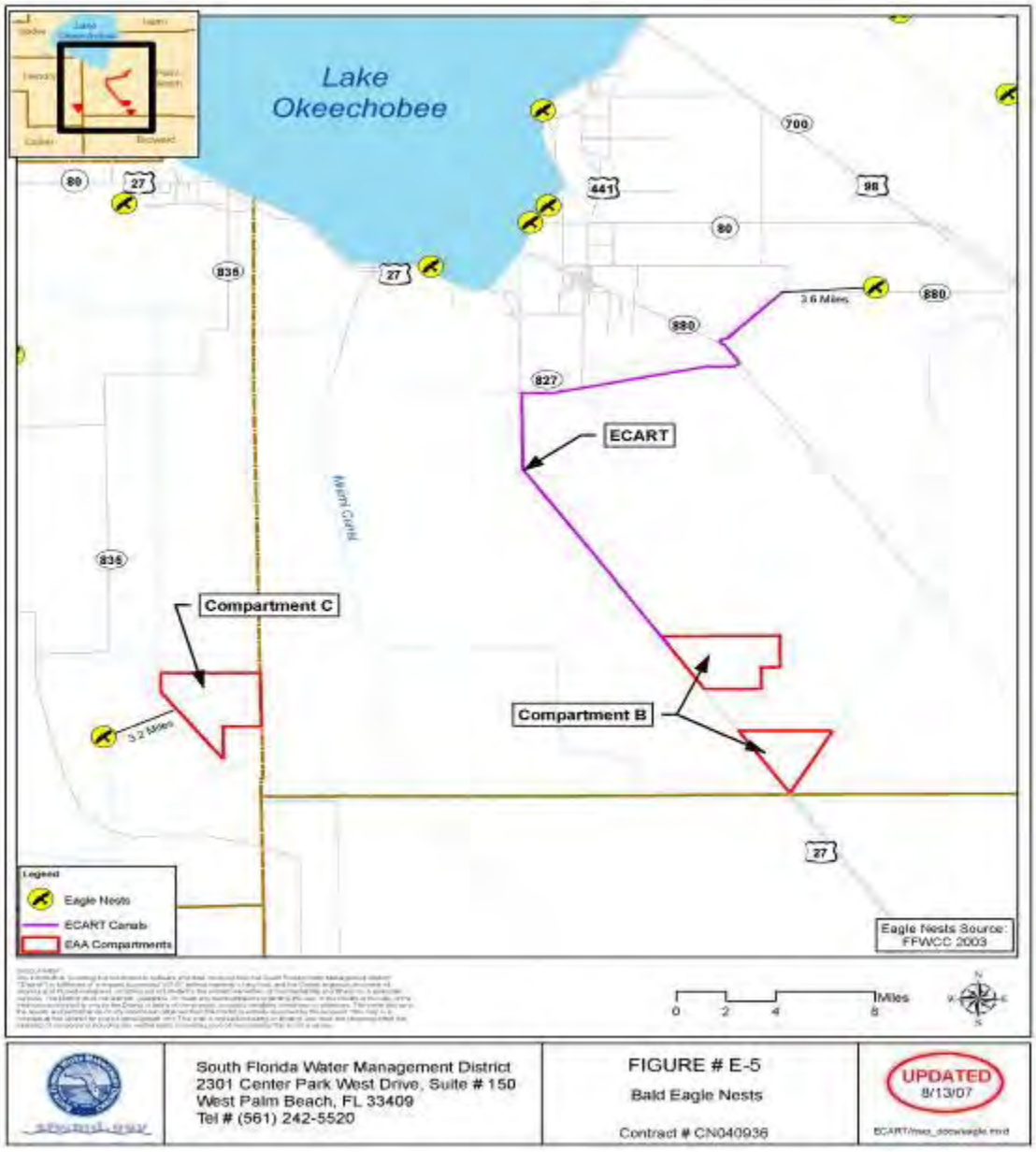
Source: URS 2007

3.2.3 Bald Eagle

The bald eagle *(Haliaeetus leucocephalus)* is a large predatory bird with a white head and tail, and a large, hook-shaped yellow bill. Its plumage is evenly brown, and its tail is slightly wedge-shaped. The bald eagle is listed as threatened by the FFWCC. This species forages in coastal areas, bays, lakes, and other water bodies. It requires mature coniferous or hardwood trees for perching, roosting, and nesting. The FFWCC regulates construction activities proposed to occur within 660 feet of any active bald eagle nests. The FFWCC's Eagle Nest Locator website (http://wld.fwc.state.fl.us/eagle/eaglenests/Default.asp) was accessed to determine the presence of any known bald eagle nest sites within the project areas. According to the FFWCC web database, no bald eagle nests have been documented within one mile of any of the project areas. The closest documented active bald eagles' nests are located 3.2 miles west of Compartment C.

The bald eagle was delisted from the State of Florida in 2007 federally threatened status. However, the bald eagle is federally protected under the Bald and Golden Eagle Protection Act. The freshwater marshes in the A-1 project site are potential prey bird habitat, but there were no eagles observed during the surveys for the 2012 wildlife evaluation report, and no nests were observed.

Figure 5-11 Bald Eagle Nest Locations



Source: URS 2007c

3.2.4 Burrowing owls

Burrowing owls *(Athene cunicularia)* inhabit open prairies in Florida that have very little understory (floor) vegetation. These areas include golf courses, airports, pastures, agriculture fields, and vacant lots. The drainage of wetlands, although detrimental to many organisms, increases the areas of habitat for the burrowing owl. Suitable habitat does not exist within the A-1 project site.

3.3 CUMULATIVE EFFECTS OF STATE AND PRIVATE ACTIONS IN THE PROJECT AREA

Private actions in the project area include the existing land uses, which is agricultural. The cumulative effects of future actions would be the potential conversion of agricultural lands into stormwater treatment areas or similar type of projects, such as a FEB. Cumulative effects on private actions in the area would be potentially agricultural development increasing elsewhere or the reduction of existing agricultural lands. The key provisions for the state and private entities are made at the local government level, which have been adopted by Palm Beach Counties.

Palm Beach County

Most lands within the Palm Beach County portion of the EAA, including the STA 2 and STA 3/4 are within the Glades Tier as established by the comprehensive plan (Palm Beach County 2006). Planning direction for the Glades Tier is intended primarily to maintain and support continued large-scale agricultural operations. Per Objective 1.6, Palm Beach County works with the communities in the Glades Tier to preserve and enhance the unique characteristics of the Glades and protect the economically viable agricultural base of the area.

A-1 Project Site

SFWMD acquired title to approximately 50,000 acres of land in March 1999 pursuant to Grant Agreement FB-4 with the United States Fish and Wildlife Service (USFWS)/Department of the Interior (DOI). The approximately 50,000 acres of land acquisition included the 16,000-acre A-1 project site. The SFWMD has managed the A-1 property under agricultural leases prior to the land being utilized for a restoration project. A project to construct a reservoir on the A-1 project site was included in the Comprehensive Environmental Restoration Plan (CERP) as it was designed to improve the quantity, quality, timing and delivery of water in the Everglades. The reservoir would have provided water storage in order to improve timing of water deliveries from the EAA to the WCAs, reduce Lake Okeechobee regulatory releases to the estuaries, meet supplemental agricultural irrigation demands, and increase flood protection within the EAA. In 2006, SFWMD was given Department of the Army (DA) authorization to construct the reservoir on the A-1 project site. USFWS/DOI provided approval for the interim land use change for construction of the reservoir.

STAs

STA 2 (including Compartment B) and STA 3/4 were constructed and are being operated to provide water quality improvement in discharges to the Everglades Protection area (EPA). Physical features within the existing STAs include the constructed wetlands and the associated water management infrastructure (such as levees, canals, and water control structures). Land cover within the STAs is primarily a mixture of open water, emergent, and submergent marshes. Land use for these areas can be classified as public/institutional or conservation. To varying degrees, the STAs also support ancillary recreational uses such as hunting, fishing, and wildlife viewing.

WCAs

WCAs 2A and 3A were designated primarily to receive flood waters from adjacent areas and store the waters for beneficial municipal, urban, and agricultural uses; however, they are

currently managed for multiple uses including flood protection, water supply storage, and environmental resource protection. The Florida Fish and Wildlife Conservation Commission (FWCC) currently manages the fish and wildlife in the WCAs and the Holey Land.

3.3.1 Cumulative Effects of Everglades Restoration

Many planned Everglades Restoration projects will affect the Northern and Southern Everglades in the future. These projects focus on restoration of natural hydrology and improved water quality in the project-affected environment. Cumulatively, these restoration efforts will provide substantial improvements in water quality, water deliveries, and timing of these deliveries. These efforts are anticipated to improve habitat for fish and wildlife, including threatened and endangered species by restoring the hydrology and the vegetative communities of the historical Everglades. Among the specific ecological benefits from these projects, fresh water releases to the northern estuaries will decrease. This is expected to help normalize salinity and dissolved oxygen and reduce turbidity and nitrification. In addition, Lake Okeechobee water levels will be restored to normal conditions and periods of prolonged high water levels, lake draw-downs that cause rapidly receding water levels, and nutrient inputs will be minimized. Furthermore, STAs, storage reservoirs, and aquifer storage recovery (ASR) wells will improve the quality of water in the region. Finally, implementation of best management practices to treat agricultural runoff prior to discharge will reduce phosphorus levels in EAA waters.

The Everglades restoration effort includes more than 60 major components. The goal is to capture fresh water that now discharges to the ocean and the gulf, and redirect it to areas that historically received the flow. The major components are surface water storage reservoirs, water preserve areas, and management of Lake Okeechobee as an ecological resource. Other components include improved water deliveries into the estuaries, underground water storage, treatment wetlands, improved water deliveries to the Everglades, removal of barriers to sheet flow, storage of water in existing quarries, reuse of wastewater, pilot projects, improved water conservation, and additional feasibility studies.

All regional restoration projects, but specifically those described below, are intended to produce cumulative beneficial effects to the affected regions.

The **Everglades Construction Project (ECP)** includes construction of more than 44,000 acres of STAs in the EAA. The ECP will improve the volume, timing, quality, and distribution of water as it enters the Everglades and will reduce the volume of undesirable discharge to the Caloosahatchee and the St. Lucie Estuaries, and the Indian River, and Lake Worth Lagoons.

The **Everglades Agricultural Area STA Expansion** project will expand the size and enhance the performance of existing stormwater treatment areas created as part of the Everglades Construction Project. Constructed wetlands in the STAs naturally reduce pollution in the water before it is released to the Everglades. Overall, this project will add 18,000 acres of treatment area to the existing EAA STAs. Phase 1, the initial construction of the STAs, has been completed; Phase 2, the STA Build-out, is the project proposed.

The **Indian River Lagoon South Restoration Project** is designed to reverse the impacts of pollution and unnaturally large freshwater flows to the surrounding water bodies. The project

will assist in achieving a balance of fresh and salt water in the Indian River Lagoon and St. Lucie Estuary (USACE 2007).

The **Lake Okeechobee Watershed Project (LOWP)** will in part address phosphorous loads to Lake Okeechobee and also provide alternative storage locations (reservoirs) so that water levels in the lake can be regulated for greater environmental benefits while still serving water supply and other water resource functions. The LOWP is intended to reduce the phosphorous load by 53 metric tons per year and store approximately 273,000 acre-feet of water. The load reduction will assist in meeting the TMDL goals for Lake Okeechobee (USACE 2007)

The **Kissimmee River Restoration** Project is currently in the construction phase of restoration efforts that will return a significant portion of the Kissimmee River to its historical riverbed and floodplain. These actions will provide a more natural fluctuation of water levels in both the upper and lower basins.

The **Acme Basin B** project would provide water quality treatment and stormwater attenuation for runoff from Acme Basin "B" prior to discharge to the Loxahatchee National Wildlife Refuge or alternative locations described below. Excess available water may be used to meet water supply demands in central and southern Palm Beach County. Stormwater runoff from Acme Basin "B" will be pumped into the wetland treatment area and then into the storage reservoir until such time as the water can be discharged into the Loxahatchee National Wildlife Refuge if water quality treatment criteria is met or into the one of two alternative locations: the Palm Beach County Agricultural Reserve Reservoir (VV) or the combination above-ground and in-ground reservoir area located adjacent to the L-8 Borrow Canal and north of the C-51 Canal(GGG). It is also a component of the Acceler8 WPA projects discussed below.

The **C-44 (St. Lucie Canal) Reservoir/Storm Water Treatment Area** project involves construction of a 3,400-acre, 15-foot-deep aboveground reservoir that will provide significant water storage for the C-44 basin and a 6,300-acre STA to capture and treat stormwater runoff before it enters the St. Lucie Canal. The project will decrease flows and improve water quality to the St. Lucie Estuary.

The **C-43 (Caloosahatchee River) West Reservoir** project involves construction of a 3,400-acre aboveground reservoir to capture and store stormwater runoff from the C-43 Basin (Caloosahatchee River Watershed) and Lake Okeechobee releases, minimizing freshwater flows and water discharges to the Caloosahatchee Estuary.

The **Water Preserve Areas** project is composed of the following five components: the Site 1, C-9, and C-11 impoundments, the Acme Basin B, and WCA 3A/3B. It includes construction of aboveground impoundments, a wetland buffer strip, pump stations, culverts, canals, water control structures and seepage control systems. Environmental benefits from the project include improved hydropatterns in the WCAs and flows into Everglades National Park, increasing the spatial extent of wetlands and enhancing existing wetlands adjacent to the Everglades, and reducing seepage from the EAA to surrounding developed areas. The benefits further include reducing the amount of water released to tide in Broward and Palm Beach counties, and improving Everglades' water quality by diverting urban runoff into impoundments.

The **Picayune Strand (Southern Golden Gate Estates) Restoration** project involves restoration of natural water flow across 85 square miles in western Collier County. Environmental benefits from this project include enhancing and restoring wetlands in Picayune Strand and adjacent public lands by reducing over-drainage, restoring natural sheetflow to the Ten Thousand Islands National Wildlife Refuge, and the resulting improved fish and wildlife habitat, and improving the quality and volumes of water delivered to coastal estuaries.

The **Biscayne Bay Coastal Wetlands-Phase 1** project is part of a larger project that will expand and restore the wetlands adjacent to Biscayne Bay in Miami-Dade County, thus enhancing the ecological health of Biscayne National Park. This project consists of design and construction of two essential flow-ways, located at Deering Estate and Cutler Ridge. The project will restore the quantity, quality, timing, and distribution of fresh water to Biscayne Bay and Biscayne National Park. It will also capture, treat and redistribute freshwater runoff from the watershed into Biscayne Bay, creating more natural water deliveries and result in improved salinity distribution near the shoreline, which will re-establish productive nursery habitat for shrimp and shellfish

The **C-111 Spreader Canal** project is located in south Miami-Dade County and involves features designed to provide for ecosystem restoration of freshwater wetlands, tidal wetlands, and near-shore habitat and the degradation of existing levees to enhance sheetflow across the restored area.

The **Lake Okeechobee and Estuary Recovery (LOER) Plan** would address water resource needs and the ecological health of Lake Okeechobee and of the Northern Estuaries. It is meant to fast-track capital projects by using state funds and incorporates construction projects, studies, and policy changes. The construction components include reservoirs, STAs, and re-routing water flows. The combined storage and phosphorus reduction benefits are estimated at 48,000 acre-feet and 65 to 75 metric tons. Some of the other components include establishing total maximum daily load (TMDL) for Lake Okeechobee tributaries, implementing mandatory fertilizer BMPs for agriculture and urban use, establishing revised ERP criteria for new development in the Lake Okeechobee and Estuaries Watershed Basins, and, as discussed in the next paragraph, revisions to the Lake Okeechobee Regulation Schedule. For more information on LOER, visit the following Web site:
https://my.sfwmd.gov/portal/page/portal/common/newsr/lonew/final_lake_o_plan.pdf

The **Lake Okeechobee Regulation Schedule Study (LORSS)** is the current regulation schedule for Lake Okeechobee. LORSS is the re-evaluation of the prior operating schedule, Water Supply and Environment. In 2005, the LORSS was initiated to address the continued deterioration of Lake Okeechobee's littoral marsh and both the Caloosahatchee and St. Lucie estuaries, and well as provided operational flexibility to handle extreme wet weather conditions resulting in high lake levels. LORSS depends on STAs and storage reservoirs associated with the other restoration projects for water conveyance, storage, and treatment. The full benefit of the LORSS would occur only with implementation of STAs, reservoirs, and canal conveyance projects associated with Acceler8 and CERP projects.

The **Northern Everglades and Estuaries Protection Program (NEEPP)** (Section 373.4595, Florida Statutes, 2007) expanded the Lake Okeechobee Protection Act in Section 373.4595, Florida Statutes (2000) to include protection of the St. Lucie and Caloosahatchee River

watersheds. It was developed in response to legislative findings that the Lake Okeechobee, Caloosahatchee River, and St. Lucie River watersheds are critical water resources of the state that have been, and are continuing to be, adversely affected from changes to hydrology and water quality. The NEEPP covers the Lake Okeechobee Watershed and the watersheds of the St. Lucie and Caloosahatchee Estuaries. The primary intent of the NEEPP is: "to protect and restore surface water resources and achieve and maintain compliance with water quality standards in the Lake Okeechobee Watershed, the Caloosahatchee River Watershed, and the St. Lucie River Watershed, and downstream receiving waters, through the phased comprehensive, and innovative protection program…which includes long-term solutions based upon the total maximum daily loads established in accordance with s.403.067" [373.4595(1)(l), F.S.]." The NEEPP includes a phased approach to provide progressive water quality and quantity improvements to benefit Lake Okeechobee and downstream estuaries by implementing agricultural management practices, constructing treatment wetlands for water flowing into Lake Okeechobee, implementing innovative nutrient control technologies to remove phosphorus, and creating water storage north of Lake Okeechobee through a combination of above ground reservoirs, underground reservoirs, and alternative water storage projects. Additional information can be found at:

http://www.sfwmd.gov/portal/page/portal/xweb%20protecting%20and%20restoring/other%20everglades

The proposed **U.S. Sugar Corporation Land Acquisition** involves the purchase of approximately 26,800 acres south of Lake Okeechobee. Although the original goal was to purchase 187,000 acres of land, the SFWMD maintains the option to acquire 153,200 acres of additional lands if future economic conditions allow. The purpose of the purchase is to acquire agricultural land on which to build a highly engineered network of managed storage and treatment intended to better manage the timing and quality of water delivered to the Everglades. The suite of projects is referred to as the River of Grass project.

The goal of **Central Everglades Planning Project (CEPP)** is to implement a suite of restoration projects in the central Everglades to prepare for congressional authorization, as part of the Comprehensive Everglades Restoration Plan (CERP). CEPP would evaluate and develop incremental project components that focus restoration on more natural flows into and through the central and southern Everglades. This would be accomplished by re-establishing the hydroperiods and hydropatterns that characterize the River of Grass project by (1) increasing storage, treatment, and conveyance of water south of Lake Okeechobee, (2) removing and/or plugging canals and levees within the central Everglades, and (3) retaining water within Everglades National Park and protect urban and agricultural areas to the east from flooding, Implementation of CEPP would allow more water to be directed south to the central Everglades, Everglades National Park and Florida Bay while protecting coastal estuaries projects on land already in public ownership. For more information on CEPP, visit the website:

http://evergladesplan.org/pm/projects/proj_51_cepp.aspx

3.4 OTHER CONSULTATIONS OF FEDERAL ACTIONS TO DATE

To date, the U.S. Army Corps of Engineers has consulted with the U.S. Fish and Wildlife Service (Service) for the following projects which have similar consultations:

EAA A1 Reservoir:
Service Log No.: 4-1-04-F-8754
Corps Application No.: SAJ-2005-53 (IP-TKW)
Date Received: October 3, 2005
Formal Consultation Initiation Date: February 10, 2006
Applicant: South Florida Water Management District - Acceler8
Program County: Palm Beach
By letter dated April 14, 2006, the Service provided a biological opinion for issuing a U.S. Army Corps of Engineers (Corps) permit for the construction of the South Florida Water Management District's (District) Acceler8 project known as the Everglades Agricultural Area (EAA) A-1 Reservoir Project (EAA A-1 Reservoir) and its effects on the endangered Florida panther *(Puma concolor colyi*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 153 1 *et seq.*).

STA 2 Cell 4 and STA 5 Flowway 3:
Service Log No.: 4-1-05-11288
Date Received: January 20, 2005
Formal Consultation Initiation Date: July 18, 2005
Applicant: South Florida Water Management District
Projects: STA 2 Cell 4 and STA 5 Flowway 3
Counties: Palm Beach and Hendry
By letter dated April 16, 2005, the Service provided a biological opinion for the construction and operation of the above referenced projects and their effects on the endangered wood stork (*Mycteria americana*), the threatened bald eagle (*Haliaeetus leucocephalus*), and the Everglade snail kite (*Rostrhamus sociabilis plumbeus*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

Everglades Agricultural Area Reservoir A- 1
Service Consultation Code: 4 1420-2006-F-0855
Corps Application No.: SAJ-2005-53 (IP-TKW)
Formal Consultation Initiation Date: October 20, 2006
Applicant: South Florida Water Management District
Project: Everglades Agricultural Area Reservoir A-1
County: Palm Beach
By letter dated November 21, 2006, the Service provided a biological opinion for the construction and flooding of the Everglades Agricultural Area (EAA) Reservoir A-1 Project (A- 1 Reservoir) in Palm Beach County, Florida, and its adverse effects on the eastern indigo snake (*Drymarchon corais couperi*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 153 1 *et seq.*).

Lake Okeechobee Regulation Schedule Study
Service Consultation Code: 41420-2006-F-0072
Formal Consultation Initiation Date: July 3, 2006
Applicant: South Florida Water Management District
Project: **Lake Okeechobee Regulation Schedule Study**
By letter dated October 15, 2007, the Service provided a biological opinion for the operational changes to the water management infrastructure that discharges water from Lake Okeechobee to downstream systems (St. Lucie and Caloosahatchee estuaries, the Everglades Agricultural Area and the Water Conservation Areas, and its adverse effects on the wood stork (*Mycteria americana*), Okeechobee gourd (*Cucurbita okeechobeensis*), West Indian manatee (*Trichechus manatus*) and Everglade snail kite in accordance with Section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 153 1 *et seq*.).

Compartment B Stormwater Treatment Area
Service Consultation Code: 41420-2009-F-0765
Formal Consultation Initiation Date: March 24, 2009
Applicant: South Florida Water Management District
Project: By letter dated April 3, 2009, the Service provided a biological opinion for the construction and operation of an STA on the Compartment B lands and its adverse effects on the Audubon's crested caracara, the Florida panther, the Everglades snail kite, and the eastern indigo snake.

3.5 DESIGNATED CRITICAL HABITAT

A list of federally designated critical habitat for protected species is maintained by the USFWS and NOAA-NMFS in accordance with the ESA. The ESA defines "critical habitat" as (1) the specific areas within the geographical area occupied by the species at the time it is listed on which are found physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and (2) specific areas outside of the geographical areas occupied by the species at the time it is listed upon a determination that such areas are essential for the conservation of the species.

The only species with a designated critical habitat which may potentially be affected by the proposed project is the Everglade Snail Kite:

Loss and degradation of habitat are the primary threat to snail kites. Water levels, duration, and quality are primary concerns in Everglade snail kite conservation. Water levels must allow for appropriate nesting sites, durations of water levels must be sufficient to support apple snail populations, and water quality must be such that invasive species do not take over Everglade snail kite foraging habitat (USFWS 1999). Critical habitat was designated for the snail kite in 1977. Critical habitat within the scope of the project includes WCA 2 and portions of WCA 3.

The A-1 project site is within the USFWS' Everglade snail kite consultation area. Everglade snail kites are present in the EAA, STAs 2 and 3/4, and WCAs 2A and 3A. No evidence of Everglade snail kite nesting or foraging was observed in the A-1 project site during the 2012 field visits. It is likely that snail kites use the freshwater marshes in these areas for foraging.

4.0 EFFECTS OF THE PROPOSED ACTION

4.1 DIRECT IMPACTS OF THE PROPOSED ACTION

Direct wetland impacts for the construction of the A-1 Shallow FEB are defined as impacts that occur within the footprints of the A-1 project site during or as a direct result of construction activities. These include but are not limited to re-grading of wetlands and/or waters of the United States, dredging or the placement of fill material into wetlands and/or waters of the United States, any temporary fill necessary for construction staging areas within the project footprint, and noise from construction activities. Wetlands within the A-1 project site that are not converted to canals or uplands would be directly affected by inundating of the wetlands. Construction of the Shallow FEB would result in impacts to 537 acres of waters of the U.S. to include 296.5 acres of fill to construct the levee and 164.5 acres of fill to raise the elevation of canals and ditches, as well as the discharge of fill material associated with canal excavation into 75.8 acres of waters of the U.S. Over 10,500 acres of waters of the U.S. would be inundated.

The construction of the Shallow FEB would result in short-term impacts to and displacement of the natural environment at the project site. In addition, some temporary, short-term negative effects would likely occur during the construction phase, including roadway impacts. The construction of the Shallow FEB would have long-term positive affects on water quality, recreation, and for species that utilize the STAs.

4.2 INDIRECT IMPACTS OF THE PROPOSED ACTION

The Environmental Impact Statement (EIS) assessed the indirect effects to include the effects to STAs 2 and 3/4 and WCAs 2A and 3A. Because the Shallow FEB would be working in conjunction with STA 2 and STA 3/4, the indirect project impacts will include the footprint of these existing STAs. The downstream receiving areas are also included in the indirect assessment including WCA 2A and WCA 3A.

The existing STAs (STA 2 and STA 3/4) are not waters of the United States because they are water treatment facilities that are operated under the State's NPDES program. The indirect effects to these STAs shall be included in this assessment because they provide foraging habitat for fish and wildlife species. As proposed, these STAs would operate to effectively reduce phosphorus concentration and load from upstream areas and discharge into the downstream areas. The ultimate purpose of these STAs are to provide treatment to downstream areas, however, they are heavily utilized for fish and wildlife habitat. The potential indirect effects to the receiving downstream areas (WCA 2A and WCA 3A) include an imbalance in the flora and fauna of wetland and aquatic communities as a result of changes in hydrology and phosphorous levels.

The modeling data was initially conducted in the EIS for a No Action Alternative, the construction of the Shallow FEB (Alternative 2), a Deep FEB (Alternative 3), and a STA (Alternative 4). Because Alternative 2 is the applicant's preferred alternative, Alternatives 1, 3, and 4 will not be evaluated in this BA. The applicant's preferred alternative (Alternative 2), as

modeled in the draft EIS, predicted the conditions expected with the operation of Shallow FEB working in conjunction with the foreseeable projects.

4.3 Effects of Interrelated and Interdependent Actions

The EAA was historically Everglades swampland, which have been drained and put into agricultural production. The former swampland produced the rich organic peat and muck soils that today make it a highly productive agricultural area, with approximately 620,797 acres of agricultural land (USACE 2006). The agricultural area designation was formally established in the 1950s (USACE and SFWMD 2004) and associated water management infrastructure had been substantially completed in 1962. Sugar cane is the area's dominant crop with approximately 898 square miles of active sugar cane fields; this harvest provides 50 percent of the sugar produced nationally (USACE and SFWMD 2004).

Discharge water from the EAA, which contains high levels of dissolved nutrients, mainly phosphorus and nitrogen from fertilizers and particulate matter, drain from the agricultural canals, to the secondary canals, into the six main primary canals, and are eventually discharged into the EPA or to tide. In addition to flood protection for and water supply to the EAA, the canals and water control structures convey regulatory releases from Lake Okeechobee to the WCAs, water supply releases to the EAA and eastern Palm Beach, Broward, and Dade counties for municipal water supply and to prevent saltwater intrusion, and water supply releases to ENP (Cooper 1989).

Water Conservation Areas (WCAs)

Three WCAs (1, 2A, and 3A) directly receive water from the EAA and Lake Okeechobee. The WCAs serve as surface water impoundments developed to provide water storage, flood control, and wildlife conservation (SFWMD 2007) and are subjects of Everglades restoration activities of the CERP. Although the highly managed hydrology in the WCAs has dramatically altered vegetation communities and soils of the Everglades, the interior wetlands and wetland soils persist and continue to provide substantial wildlife habitat.

In 1951, WCA 1 was formally declared a national wildlife refuge under the authority of the Migratory Bird Conservation Act of 1929, and through a license agreement between the Central & Southern Florida Flood Control District (now called the South Florida Water Management District) and the U.S. Fish & Wildlife Service (USFWS). WCA 1 is also referred to as the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Refuge). This 147,392-acre refuge is managed by the USFWS and includes more than 14,880 acres of Everglades habitat, recreational amenities, and a 400-acre cypress swamp that is the largest remaining remnant of a cypress strand that once separated the pine flatwoods in the east from the Everglades marshes (USFWS undated). There is relatively no change in the volume of water, total phosphorus loads, and total phosphorus concentrations in WCA 1 as a result of the project. The change in water volume entering into WCA 1 is not expected to change from existing condition with the A-1 Shallow FEB project.

WCA 2A and WCA 3A are primarily state-owned and managed by the State for multiple purposes including flood protection, fish and wildlife, and recreation. WCA 3A is a 578,000-acre impoundment with typical everglades sawgrass and wet prairie vegetation. It is managed by

the state and management decisions potentially affect tribal land as it overlaps with a portion of the Miccosukee Indian Reservation and is adjacent to the Big Cypress Seminole Indian Reservation. Directly to the south of WCA 3A is Everglades National Park and Florida Bay. Hydrologic conditions in Everglades National Park, Florida Bay, and Biscayne Bay, including Biscayne National Park, are also dependent on freshwater flows coming from Lake Okeechobee and the EAA.WCA 2A would receive water from STA 3/4, however the total phosphorus concentrations would be slightly reduced. An decrease in phosphorus loading and concentration is expected to decrease invasive cattail coverage and result in a lower habitat value. For WCA 3A, the decrease in water volume, phosphorus loads and concentrations that enter WCA 3A may slow down the succession of wet prairie areas to more sawgrass monoculture and upland vegetation.

4.4 MITIGATIVE MEASURES

Mitigation for the potential impacts will include requiring the SFWMD to monitor water quality, vegetative composition, and fish and wildlife usage in conformance with the long-term plan and the permit conditions. The information would be used to evaluate the effects of the project on these regions and decide whether additional mitigation requirements would be appropriate. The mitigation plan includes preserving and enhancing wetlands and uplands within WCA2A and WCA 3A, which would enhance of the condition of the wetlands. The SFWMD has also proposed to receive lift for vegetation and structural habitats within the footprint of the Shallow FEB, including replacement of low quality wetland vegetation with native wetland plant vegetation as well as exotic plant species removal.

The Shallow FEB is expected to contribute to the overall goal of the ecological restoration of the Everglades Protection Area (EPA) by improving the quality of water delivered to WCA-2A and WCA 3A. Benefits include restoring more natural hydroperiods and hydropatterns, improving ecological functionality throughout the WCA 2A and WCA 3A. The increased hydroperiod benefits the areas in many ways, including, decreased soil loss due to oxidation, reduced water column total phosphorous (TP), and improved habitat for many obligate aquatic species.

5.0 EFFECTS OF THE PROPOSED ACTION ON FEDERALLY-LISTED SPECIES

This section discusses potential direct and indirect impacts of this project to the federally listed threatened or endangered species and/or their designated critical habitat. This section also evaluates the effects of the interrelated and interdependent system of stormwater treatment areas and the subsequent effects on each species at each project site. In addition, the proposed cumulative effects of the project and associated/assumed system operations planned in the surrounding areas would be evaluated. The potential of an incidental take would be evaluated.

The potential for listed species to be present was evaluated based on available suitable habitat and critical habitat, the species biology, and the geographic range of the species. The proposed project consists of the A-1 project site. Because the Shallow FEB on the A-1 project site would be working in conjunction with STAs 2 and 3/4, the effects assessment will include the affected areas within existing STAs. Since the STAs discharge into WCA 2A and WCA 3A, these areas will be included in the assessment.

Although many federally-listed species could potentially be found within the Palm Beach County, several species are not affected by the proposed project or are limited in geographic range:

American alligator: The species is expected to be found within the habitat created by the construction of the Shallow FEB. The creation of habitat is expected to provide a benefit to its survival. However, the species is not protected under the Endangered Species Act. Therefore, it will no longer be included in this assessment.

American Crocodile: The American crocodile is located south of the project site and along coastal waters. The species is not typically fund inland where the project is proposed. Therefore, the Corps has determined that this project would have no effect on the American crocodile.

Florida grasshopper sparrow: The Florida grasshopper sparrow is located upstream of the project footprint. Therefore, the project would have no effect on the Florida grasshopper sparrow.

Florida scrub jay: The project area does not support habitat suitable for the Florida scrub-jay, and is outside of the consultation area. Therefore, the project would have no effect on the Florida scrub jay.

Red cockaded woodpecker: The red-cockaded woodpecker is not found within the project site or the downstream affected habitat, and the area is outside of the consultation area. Therefore, the project would have no effect on the red cockaded woodpecker.

Sea turtles: The listed sea turtles, the piping plover, and the southeastern beach mouse are coastal species, which are not within the project footprint or within the potential downstream affected area. Therefore, the project would have no effect on the listed sea turtles.

West Indian manatee: The affected waterbodies are not accessible to the West Indian manatee. Manatee barriers have been placed to preclude manatee access to Everglades region canals from Lake Okeechobee at water control structures S-351, S-352 and S-354. These structures regulate the flow of water into the L-14 Canal (Hillsboro Canal) the L-20 Canal (North New River), the L-10 Canal (West Palm Beach Canal) and the L-25 Canal (Miami River), respectively. Therefore, the project would have no effect on the West Indian manatee.

Listed plants: The beach jacquemontia, four-petal pawpaw, Florida perforate cladonia, and the tiny polygala are located along coastal counties south of the project site. The Okeechobee gourd has a low potential of occurrence within the project study areas, as its preferred habitat consists of Lake Okeechobee shores and islands, and floodplain forests along the St. Johns River. No Okeechobee gourds were observed during the field reviews. Therefore, the project would have no effect on the federally listed plant species.

Determinations: The Corps has made a "no effect" determination for these species. Thus, the American crocodile, bald eagle, the Florida grasshopper sparrow, the Florida scrub-jay, the red-cockaded woodpecker, the listed sea turtles, the piping plover, the southeastern beach mouse, the West Indian manatee, the beach jacquemontia, four-petal pawpaw, Florida perforate cladonia,

and the tiny polygala, the Okeechobee gourd, and the American alligator will no longer be evaluated in the effects determinations.

Listed Species Included in the Effects Assessment: Several listed species that have the potential to be affected by the project are evaluated further in this assessment and include the Florida panther, the Audubon's crested caracara, the Everglade snail kite, the wood stork, and the eastern indigo snake. These are listed in Table 5-1, followed by descriptions of each species.

Table 5-1. Listed of Federally Protected Species in the Project-affected Regions that may be Affected by the Proposed Project

		Compartments		
Scientific Name	**Common Name**	**A**	**B**	**C**
Mammals				
Felis concolor coryi	Florida panther			X
Birds				
Caracara plancus audubonii	Audubon's Crested caracara	X	X	X
Rostrhamus sociabilis plumbeus	Everglade snail kite	X	X	X
Mycteria Americana	Wood stork	X	X	
Reptiles				
Drymarchon coaris couperi	Eastern indigo snake	X	X	X

Legend: E- Endangered, T- Threatened, SSC- Species of Special Concern

5.1 AUDUBON'S CRESTED CARACARA

The Audubon's crested caracara (*Polyborus plancus audubonii*) prefers open fields, pine flatwoods, dry prairie, and wet prairie. The caracara nests primarily in cabbage palm trees and forages in vegetated areas less than one-foot in height. The USFWS SLOPES defines the primary protection zone for this species as 985 feet outward from a nesting tree. The secondary zone is 6,600 feet outward from an active nesting tree. The project study areas are located within a crested caracara consultation area.

5.1.1 Direct Effects

Direct impacts to the Audubon' crested caracara include and impacts associated with the construction and operation of the Shallow FEB.

5.1.1.2 A-1 Project Site: There are no freestanding cabbage palm trees within the A-1 project site, and no signs of previous or new crested caracara nesting activity are recorded. No known nest sites are located within 6,600 feet of the A-1 project site. Currently, many areas of the site contain vegetation higher than one foot or inundated with water. Therefore, the Corps believes that there is a low potential for the caracara to utilize the existing project area for nesting or foraging habitat because of lack of preferred habitat. Post project conditions on the A-1 Shallow FEB site would also not be high-use areas for the caracara as the interior of the site would contain emergent wetlands. The Shallow FEB may improve foraging habitat for caracara by creating levees for the caracara to rest.

5.1.2 Indirect Effects

Indirect impacts include an increase in traffic and noise levels.

5.1.2.1 A-1 Project Site: An increase in traffic may increase the quantity of wildlife mortality along the road. Caracaras frequently are seen along roadways feeding on the wildlife that has been killed by vehicle strikes. Although increasing feeding opportunities, the caracara also has a risk of being struck by vehicles. The increase in noise levels is not expected to cause an unacceptable adverse affect to caracaras.

5.1.2.2 STA 2 and STA 3/4: The STA 2 and STA 3/4 are within the Audubon's crested caracara's consultation area, but the impoundments are currently operated at STAs. The sites do not contain free-standing trees, and consist of emergent and submerged aquatic vegetation. Therefore, the STAs do not contain nesting or foraging habitat. The existing levees may provide foraging habitat or areas for resting. The operations of these STAs are not expected to change any potential foraging habitat for the Audubon's crested caracara. Therefore, the continued operation of these STA would not have a direct impact on the caracara.

5.1.2.3 WCA 2A and WCA 3A: A small portion of the western area of WCA 2A is located within the Audubon's crested caracara's consultation area. The changes in water levels within WCA 2A and WCA 3A are minor. WCA 2A would experience hydroperiod to extend 17 days longer per year in 600 acres (0.06% of the total area) than the No Action Alternative and 14-30 days shorter per year in 11,000 acres (2.2% of the total area) in WCA 3A. The wetland habitats in the WCAs are not prime foraging or nesting habitat for the caracaras as they prefer upland areas. Access to pray availability would not change in the WCAs. **Therefore, the change in hydrology in the WCA 2A and WCA 3A is not expected to cause an unacceptable adverse impact to the caracara**.

5.1.3 Effects of Interrelated and Interdependent Actions

No additional roadways or utility lines are anticipated to be constructed as a result of this project.

5.1.4 Cumulative Effects

All regional restoration projects described in Section 3.3.1 would provide extensive cumulative beneficial effects to the Audubon's crested caracara. The construction and expansions of additional STAs, the anticipated reduction of phosphorous loads from Lake Okeechobee, the construction of additional reservoirs, the construction of aboveground impoundments, the restoration of natural water flow in Picayune Strand, and the improvements to the ecological health of Lake Okeechobee is expected to have an overall beneficial effect by improving water quality and ecological habitat in areas utilized by the Audubon's crested caracara. Continued improvements in downstream areas are also expected to provide cumulative benefits.

5.1.5 Quantity of Incidental Take

No incidental take is expected.

5.1.6 Determination

The A-1 Project site and the downstream areas are located within a USFWS consultation area for the crested caracara but outside known juvenile gathering areas. The *Species Conservation Guidelines for Crested Caracara* (USFWS 2004) state that no effect from the project is anticipated on the caracara if on-site surveys of suitable habitat within the consultation area do not detect caracara nests. The change in hydrology in the downstream areas is not expected to alter the caracara's available nesting or foraging habitat. Therefore, the project **may affect, but is not likely to adversely affect** the caracara.

5.2 EASTERN INDIGO SNAKE

Upland and dry habitats (flatwoods, dry prairies, tropical hardwood hammocks, and coastal dunes) are the preferred habitats of eastern indigo snakes (*Drymarchon corais couperi)* (USFWS 1999). While drier, upland habitat is limited in the project-affected regions, these species may also forage along the edges of freshwater marshes and in agricultural fields in the EAA.

5.2.1 Direct Effects

The proposed project is anticipated to have a **direct impact** on the eastern indigo snake through loss of habitat and any impacts associated with the construction of the Shallow FEB.

5.2.1.1 A-1 Project Site

Construction of the shallow A-1 FEB would result in the conversion of 10,517 acres of wetlands to an above ground impoundment containing up to 4 feet of water. The eastern indigo snakes may forage along the edges of the FEB during drier periods, but conditions within the impoundments would generally not be suitable because these areas are anticipated to be permanently inundated. Construction activities may also result in eastern indigo snakes leaving the area, abandoning den sites, and possibly losing foraging and mating opportunities. In addition, construction activities associated with the earth-moving equipment may increase the likelihood of Eastern indigo snakes being adversely impacted. Heavy machinery, which would be re-contouring ground levels, removing and relocating berms, and constructing roads, may unearth eastern indigo snakes and cause inadvertent impacts to occur. The applicant would require the construction workers to be aware of the eastern indigo snake and its habitat, and be informed how to identify the snake if found. The eastern Indigo Snake Construction Precautions would be required to be adhered during all construction activities.

5.2.2 Indirect Effects

Indirect impacts to the eastern indigo snake are assessed from additional activities that may occur as a result of the construction of activities, and the changes to the operation and maintenance of the Shallow FEB once the proposed FEB is operational. However, some use may occur during drier hydrologic conditions.

5.2.2.2 A-1 FEB Project Site

Indirect effects include an increase in traffic and noise. An increase in traffic may increase the potential for mortality of the eastern indigo snakes on the roads. In addition, the filling of the

impoundment with water may also result in eastern indigo snakes leaving the area, abandoning den sites, and possibly losing foraging and mating opportunities. Routine mowing of the levees and berms may cause an increase in mortality to the eastern indigo snake. The increase in noise levels is not expected to cause an unacceptable adverse affect to eastern indigo snakes.

5.2.2.3 STA 2 and STA 3/4

STA 2 and STA 3/4 are currently operated as STAs; and therefore, the wetland cells do not contain suitable habitat. The cells are utilized as wetland systems, which is not prime habitat. The site does contain levees and berms, which may be suitable habitat for burrows for the eastern indigo snake. Although the STA would allow for seasonal fluctuations in water levels, the operations of the STA is not expected to change water levels that may flood existing burrows. Therefore the continued operation of the STA would not have an adverse indirect impact on the eastern indigo snake.

5.2.2.8 WCA 2A and WCA 3A

The changes in water levels within WCA 2A and WCA 3A are minor. WCA 2A would experience hydroperiod to extend 17 days longer per year in 600 acres (0.06% of the total area) than the No Action Alternative and 14-30 days shorter per year in 11,000 acres (2.2% of the total area) in WCA 3A. The WCAs are currently wetlands and do not support habitat for the eastern indigo snake. No gopher tortoise burrows are expected to be inundated as a result of the change in hydrology. Therefore, there are no adverse indirect effects expected to occur to the eastern indigo snake as a result of the change in hydrology in WCAs 2A and 3A.

5.2.3 Effects of Interrelated and Interdependent Actions

No additional roadways or power lines are needed for the construction of the Shallow FEB.

5.2.4 Cumulative Effects

All regional restoration projects described in Section 5.3.1 would provide extensive cumulative beneficial effects to the eastern indigo snake as well as potential adverse effects. The construction and expansions of additional STAs, the construction of additional reservoirs, and the construction of aboveground impoundments may have a cumulative adverse impact on the eastern indigo snake depending on site specific habitats affected, construction methodologies, and probability of the species being present. The benefits of the cumulative effects include anticipated reduction of phosphorous loads from Lake Okeechobee, improved habitat in the Kissimmee River Restoration, the restoration of natural water flow in Picayune Strand, and the improvements to the ecological health of Lake Okeechobee. These, as well as the goals of Everglades Restoration, are expected to have an overall beneficial effect by improving water quality and ecological habitat in areas utilized by the eastern indigo snake. Improvements in downstream areas are also expected to provide cumulative benefits.

5.2.5 Quantity of Incidental Take

The incidental take is expected to be primarily in the form of direct mortality.

5.2.6 Determination

Potential impacts to eastern indigo snakes may occur due to mortality during the movement of construction equipment and vehicles, construction activities, earth moving, operation and maintenance of the project, and habitat destruction and degradation including conversion of current habitat to open water habitat. Additional impacts may occur to the eastern indigo snake resulting from sudden increases in water levels within the FEB. However, the berms will be constructed in a manner to allow for the snake to escape the wetland areas of the Shallow FEB. Protective measures alerting the contractor of the potential presence of this species and its protected status shall be utilized during construction to avoid adverse impacts to this species. Therefore, the project **may affect** the eastern indigo snake.

7.3 EVERGLADE SNAIL KITE

The Everglade snail kite's *(Rostrhamus sociabilis plumbeus)* preferred habitat consists of large open freshwater marshes and shallow water bodies containing low density emergent vegetation. This protected bird is non-migratory and depends on apple snails (*Pomacea paludosa*) as a primary food source. The A-1 project site, STAs 2 and 3/4, and WCA 2A and 3A are within Everglade snail kite USFWS consultation area.

7.3.1 Direct Effects

The wetland systems within the A-1 project site may provide habitat for apple snails and thus foraging habitat for the Everglade snail kite. Johnson *et. al.* (2007) identified several studies that showed apple snails used a variety of aquatic and wetlands plants to deposit eggs but preferred sawgrass, pickerelweed, and duck potato. Apple snail clutches occurred at a greater density along the edges of sawgrass marshes and were not found in deep marsh habitats. In a marsh in central Florida, apple snail clutches usually occurred on plants with broad stems (exceeding 6 millimeters in diameter).

Dry Down Events: Apple snails need EAV to thrive. Both apple snail and snail kite population success are directly affected by depth and duration of marsh flooding (Johnson et al. 2007). The following are the hydrologic parameters/criteria that were considered in evaluating potential impacts to snail kites and apple snails:

• Dry-down periods with a 1- to 2-month period were considered optimal for apple snails, while greater than a 2-month dry-down was considered unfavorable;
• A dry-down period between March and April was considered unfavorable as this time period was documented by Darby (1997, 2003) to be a peak in apple snail egg cluster production;
• Dry-down events occurring in a 3- to 5-year cycle were considered optimum snail kite habitat; and
• Dry-down events occurring in a 2- to 3-year cycle (slightly drier than optimum) or occurring in a 5- to 6-year cycle (slightly wetter than optimum) were considered marginal snail kite habitat.

5.3.1.2 A-1 Project Site

There was no evidence of Everglade snail kites nesting or foraging in the A-1 project site during field assessments in 2012. However, the site contains habitat for the snail kite and the apple snail.

Approximately 10,517 acres of freshwater wetlands and waters of the United States would be converted to aquatic habitats containing a variety of emerged aquatic vegetation (EAV) and submerged aquatic vegetation (SAV) plant species. Relatively clear and open marshes and littoral zones with low-profile marshes (10 feet or less in depth) are ideal foraging habitat for the Everglade snail kite (USFWS 1999). During normal operations, the SAV and EAV cells would be operated at target depths of 0.5 foot minimum, 1.25 to 1.5 feet normal, and 4.0 feet maximum, which is suitable foraging habitat for the snail kite. Therefore, the wetland systems that would be created as a result of the shallow FEB would improve habitat for apple snails and the Everglades snail kite.

Rapid increases in water levels within the Shallow FEB may result in an increase of foraging opportunities. The wetlands are habitat for the apple snail, and foraging habitat for the Everglades snail kite. As a result in the operation of Shallow FEB, the STA would maintain water in the system. The operations of the FEB is not expected to change water levels that may alter hydrologic conditions which would affect the life cycle of the apple snail, nor would it affect the foraging habitat for the Everglades snail kite.

5.3.2 Indirect Effects

Indirect impacts from the Action Alternatives would likely vary by alternative and include increased traffic levels as well as changes in hydrology and vegetation in affected regions, primarily the WCAs. The three main parameters considered in the evaluation of potential indirect impacts with the Action Alternatives are traffic, the cycle and duration of dry-down events, and changes in vegetation, each of which are described below.

Traffic: Increased traffic could result in a higher risk of direct mortality; however, since the snail kites do not typically forage along roadways increases in traffic is not expected to cause an unacceptable adverse effect.

5.3.2.1 A-1 Project Site

Indirect effects include an increase in traffic and noise, and post construction maintenance and operational activities within the A-1 FEB. Because the Everglades snail kite does not forage along the roadways, an increase in traffic would not increase the potential for mortality of the Everglades snail kite. The increase in noise levels is not expected to cause an unacceptable adverse affect. Therefore the operation of the Shallow FEB would not have an adverse indirect impact on the Everglades snail kite.

5.3.2.6 STA 2 and STA 3/4

The STA 2 and STA 3/4 are currently operated as STAs and contain suitable foraging habitat for the Everglades snail kite. The cells are utilized as wetland systems, which is habitat for the apple snail and foraging habitat for the Everglades snail kite. The Shallow FEB is designed to

minimize the dry-down events in STA 2 and STA 3/4 so the FEB would improve conditions for the Everglades snail kites utilizing the STAs. Therefore, the continued operation of the STA would not have a direct impact on the Everglades snail kite.

5.3.2.8 WCA 2A and WCA 3A

Changes in the water levels within WCA 2A and WCA 3A are minor. As compared to the No Action Alternative, the hydroperiod within WCA 2A would experience wet conditions 17 days longer per year in 600 acres (0.6% of the area) and 14-30 days shorter per year in 11,000 acres (2.2% of the area) within WCA 3A. Changes in hydroperiod would occur within two indicator regions in WCA 2A: 110 and 111. Within Indicator Region 110 in WCA 2A, the differences in water levels have a maximum increase in 0.93 feet (11 inches) for two days out of the 40 year period of record, and average increases of 0.08 feet (0.96 inch). Within Indicator Region 111 in WCA 2A, the differences in water levels have a maximum increase in 0.71 feet (8.5 inches) for two days out of the 40 year period of record, and average increases of 0.02 feet (0.24 inch).

Within WCA 3A, the decrease in water levels would occur within five indicator regions: 114, 115, 117, 118, and 190. Within Indicator Region 114 in WCA 3A, the differences in water levels decrease between from -0.01 feet to -0.48 feet (maximum of 5.76 inches for 2 days), and average decreases of 0.0 feet. Within Indicator Region 115 in WCA 3A, the differences in water levels decrease between -0.01 feet to -0.12 feet (maximum of 1.4 inches), and average decreases of 0.03 feet. Within Indicator Region 117 in WCA 3A, the differences in water levels decrease between -0.01 feet to -0.28 feet (maximum of 3.36 inches for 3 days), and average decreases of 0.01 feet. Indicator Region 118 in WCA 3A, the differences in water levels decrease between -0.01 feet to -0.87 feet (maximum of 10.44 inches for 1 day), and average decreases of 0.03 feet. Indicator Region 190 in WCA 3A, the differences in water levels decrease between -0.01 feet to -0.30 feet (maximum of 3.6 inches for 8 days), and average decreases of 0.02 feet.

Therefore, the Shallow FEB would reduce the available foraging areas slightly within WCA 3A. However the 14-30 day shorter hydroperiod is expected to be minor as it is only 2.2 % of the total area of WCA 3A.

Vegetation: Because the Action Alternatives would decreases phosphorus loads and concentrations within the WCAs, all of the alternatives would not contribute to the cattail expansion within the WCAs. By meeting the water quality criteria for phosphorus in the EPA, improvements to the Everglades snail kite foraging habitat are anticipated. Everglade snail kites forage by either still-hunting from a perch or by flying above the water surface and visually locating prey. Relatively clear and open marshes and littoral zones with low profile marshes (3 meters or less in depth) and shallow open water are ideal foraging habitat for the Everglade snail kite (USFWS 1999). Increased levels of phosphorus in Lake Okeechobee and the Everglades have resulted in dense stands of emergent invasive vegetation that has replaced the foraging habitat for the Everglade snail kite. A decrease in cattail coverage is considered beneficial to the Everglade snail kite and its designated critical habitat.

5.3.3 Effects of Interrelated and Interdependent Actions

No additional roadways or FPL power lines are anticipated to be constructed as a result of this project.

5.3.4 Cumulative Effects

The regional restoration projects described in Section 5.3.1 would provide cumulative beneficial effects to the Everglade snail kite. The construction and expansions of additional STAs, the anticipated reduction of phosphorous loads from Lake Okeechobee, the Kissimmee River restoration, the construction of additional reservoirs, the construction of aboveground impoundments, the restoration of natural water flow in Picayune Strand, and the improvements to the ecological health of Lake Okeechobee are expected to have an overall beneficial effect by improving water quality and ecological habitat in areas utilized by the Everglade snail kite. Improvements in downstream areas are also expected to provide cumulative benefits. Negative effects are caused by potential changes in water elevations and drydown durations in areas utilized by the Everglades snail kite, as well as the apple snail. However, the goals of the projects are ultimately to improve water quality and the restoration of the Everglades.

5.3.5 Quantity of Incidental Take

No incidental take of the Everglade snail kite is anticipated.

5.3.6 Determination

The A-1 project site and the downstream areas are located within snail kite consultation area. Provided the USFWS Approved Snail Kite Management Guidelines is adhered to during construction of the project and certain activities are limited during snail kite nesting season, which occurs from December 1 to July 1, the project **may affect but is not likely to adversely affect the Everglade snail kite nor would it adversely modify its critical habitat**.

5.4 FLORIDA PANTHER

Florida panthers (*Puma concolor coryi)* may utilize the A-1 project site. Panther telemetry data from 1981 to 2005 show panthers in the EAA, including areas directly adjacent to the project site and in WCA 3A (USFWS 2006). Panthers may hunt on the project site, but it is unlikely that they would use these areas for any extended length of time because of the lack of suitable long-term panther habitat (URS 2007). Panthers were not observed on the project site during the field surveys.

5.4.1 Direct Effects

Direct impacts, which are primarily habitat based, may include the permanent loss and fragmentation of panther habitat. Because the existing habitat quality is generally poor, as it is primarily composed of agricultural lands and exotic plant wetland communities, direct impacts to the panther associated with the permanent loss and fragmentation of habitat that supports panther prey is lessened by the fact that the sites are located adjacent to existing stormwater treatment areas and conservation lands.

5.4.1.2 A-1 Project Site

Direct impacts to panthers from the construction of the A-1 Shallow FEB would likely occur from conversion of 10,517 acres of freshwater wetlands to deeper water wetland areas with EAV and SAV, thereby reducing potential ranging, resting, and foraging habitat on the A-1 project site. Panthers would be able to traverse through these lands or use them for hunting or resting after they are converted to the shallow FEB. The Shallow FEB would reduce potential habitat for feral hogs and white-tailed deer in on the project site, two prey items for the panther. Although this habitat is currently not ideal for panther foraging, the conversion could decrease the hunting ability of the panther. The berms and levees will provide hunting habitat, and provide corridors for traveling. Therefore, the construction and operation of Compartment B will not adversely affect the Florida panther.

5.4.2 Indirect Effects

Indirect impacts on panthers include increased traffic levels, increased noise disturbance and reduction in value of panther habitat adjacent to the project due to habitat fragmentation. In past years, several road kills have occurred on CR 835/833 as a result of vehicles entering in and off the project boundaries.

5.4.2.1 A-1 Project Site

The project construction will result in increased traffic consisting of heavy equipment and employee vehicles, and an increase in traffic traveling to the site. There is a risk that a panther may get struck by a vehicle. However, all vehicles would be required to adhere to the posted speed limits for off road and for improved road travel. Impacts associated with construction traffic would be localized due to construction occurring in phases such that panthers can avoid the areas that are under construction. Additionally, all entrances would be secured with gates to control access. Noise levels would also be localized as the different phases are under construction. The increase in noise levels is not expected to cause an unacceptable risk to the panther.

5.4.2.2 WCA 2A and WCA 3A

Slight changes to the hydrological conditions in WCA-2A and WCA 3A are anticipated, but these changes are not anticipated to impact the Florida panther.

5.4.2.3 STA 2 and STA 3/4

STA 2 is not located within the primary or secondary zone of the Florida panther, nor is it within the consultation area. The southern portion of STA 3/4 is located within the secondary zone for the Florida panther, with the southernmost located within the primary zone. The STA 3/4 is currently operated at STAs. The cells are utilized as wetland systems, which is low quality foraging habitat for the panther. The operation of the STA is not expected to change water levels that may alter hydrologic conditions which would affect the foraging habitat of the Florida panther. Therefore the continued operation of these STAs would not have an adverse indirect impact on the Florida panther.

5.4.3 Effects of Interrelated and Interdependent Actions

No additional roadways or FPL utility lines are anticipated to be constructed as a result of this project.

5.4.4 Cumulative Effects

The CERP ecosystem approach to habitat restoration and preservation is expected to provide long-term net benefits to the Florida panther. The regional restoration projects described in Section 5.3.1 would provide cumulative beneficial effects including the construction and expansions of additional STAs, the anticipated reduction of phosphorous loads from Lake Okeechobee, the Kissimmee River restoration, the construction of additional reservoirs, the construction of aboveground impoundments, the restoration of natural water flow in Picayune Strand, and the improvements to the ecological health of Lake Okeechobee. These future projects are expected to have an overall beneficial effect by improving water quality and ecological habitat in areas utilized by the Florida panther. Improvements in downstream areas are also expected to provide cumulative benefits.

5.4.5 Quantity of Incidental Take

No incidental take is anticipated for the Florida panther.

5.4.6 Determination

All vehicles will be required to obey posted speed limits for off road and for improved road travel. Impacts associated with construction traffic will be localized due to construction occurring in phases such that panthers can avoid the area under construction. Additionally, all entrances will be secured with gates to control access. Because the project would not significantly alter panther habitat within the A-1 project site or the downstream areas, the Corps has determined that the project **may affect, but is not likely to adversely affect** the Florida panther.

5.5 WOOD STORK

The preferred nesting habitat for the wood stork (*Mycteria americana*) consists of inundated forested wetlands, including cypress strands, mixed hardwood swamps, sloughs, and mangroves. The USFWS Standard Local Operating Procedure for Endangered Species (SLOPES) defines the core foraging area for wood storks to be within an 18.6-mile radius of breeding colonies. The A-1 project site contains freshwater marshes which are preferred foraging habitats for wood storks. Based on the USFWS databases, the A-1 project site is located within the geographic range of the wood stork, but is not located within the 18.6-mile core foraging area (CFA) of any known active wood stork nesting colony. However, wood storks were observed on the project site.

5.5.1 Direct Effects

Direct impacts from construction of the Shallow FEB could occur as a result of conversion of shallow wetlands (up to 18 inches in water depths) to emergent and submerged wetlands that are over 18 inches in water depths.

5.5.1.2 A-1 Project Site

Anticipated direct impacts from construction of the shallow FEB would likely increase the preferred aquatic foraging habitat available to the wood stork from the conversion of 10,517 acres of low quality wetlands to higher quality, which would increase the prey. This conversion would result in beneficial effects for wood storks by replacing lower-quality foraging habitat with higher quality shallow, inundated wetlands. Existing agricultural canals and ponds within the project site would be filled to create wetland habitat, but deeper canals (conveyance and collector canals) would continue to be in use and available to the wood stork.

5.5.2 Indirect Effects

Indirect effects would occur from changes to foraging and nesting habitats as a result of a change in vegetative communities with reductions in total phosphorous loads and concentrations entering the WCAs. Increased phosphorous loading and concentration would increase invasive cattail coverage and result in lower habitat quality for wood storks and their prey. However, it is anticipated that the increased water deliveries and reaching the future goal of decreasing phosphorous concentration into the EPA would improve habitat for the wood stork.

5.5.2.1 A-1 Project Site

Indirect effects associate with the construction and operations of the Shallow FEB include an increase in traffic and noise levels. Construction activities and noise associated with the proposed work are not expected to adversely affect the wood stork. Because the storks are mobile, an increase in traffic in the area is not expected to cause a measurable risk. It is not anticipated that the wood storks would be adversely affected by noise and traffic.

5.5.2.2 STA 2 and STA 3/4

The Shallow FEB would reduce the frequency of dry-downs within STA2 and STA 3/4. Therefore, the FEBs would improve wood stork foraging habitat within the STAs. Alternative 4 (STA) would not operate to reduce the potential for dry-downs within the existing STAs; therefore, Alternative 4 would have no effect on the wood stork foraging habitat within STAs 2 and 3/4.

5.5.2.3 WCA 2A and WCA 3A

An overall anticipated regional trend toward restored water quality is expected to improve vegetative communities, water quality, and fish and wildlife habitat in WCA 2A and WCA 3A. It is anticipated that this improvement would likewise enhance wood stork foraging habitat and access to prey items in these areas. Wood storks typically forage in water depths 18 inches or shallower. The operation of the Shallow FEB would not change the average high and low water levels during the wet or dry seasons to be either deeper or shallower than 18 inches compared to existing conditions.

5.5.3 Effects of Interrelated and Interdependent Actions

No additional roadways or FPL utility lines are anticipated to be constructed as a result of this project.

5.5.4 Cumulative Effects

The CERP ecosystem approach to habitat restoration and preservation is expected to provide long-term net benefits to the wood stork. The regional restoration projects described in Section 5.3.1 would provide extensive cumulative beneficial effects including the construction and expansions of additional STAs, the anticipated reduction of phosphorous loads from Lake Okeechobee, the Kissimmee River restoration, the construction of additional reservoirs, the construction of aboveground impoundments, the restoration of natural water flow in Picayune Strand, and the improvements to the ecological health of Lake Okeechobee. These future projects are expected to have an overall beneficial effect by improving water quality and ecological habitat in areas utilized by the wood stork. Improvements in downstream areas are also expected to provide cumulative benefits.

5.5.5 Quantity of Incidental Take

No incidental take is anticipated for the wood stork.

5.5.6 Determination

Wood stork foraging and nesting habitat would improve on the A-1 project site. The stormwater treatment areas would have less potential to dry down, thereby increasing the quality of wood stork foraging habitat. The water quality entering into WCA 2A and WCA 3A would meet water quality standards, thereby improving the vegetative communities and fish and wildlife habitat. In addition, any impacts to wetlands and waters of the United States would be offset. Therefore, the Corps has determined that the A-1 Shallow FEB **may affect, but is not likely to adversely affect** the wood stork.

6.0 CONSERVATION MEASURES

The following commitment is being made in association with the project:

- During construction, special provisions shall be implemented to protect eastern indigo snakes (Appendix A).
- Mitigation would offset the loss of wetland function and value.
- Speed limits would be posted

7.0 CONCLUSIONS

Temporary displacement of threatened and endangered species is expected during construction but is not expected to pose an unacceptable adverse impact. Although construction impacts may temporarily affect some of the listed species, the proposed project will not directly or adversely affect these species or the preferred nesting or foraging habitats of these species. In addition, the enhancement and restoration efforts associated with this project will result in a net benefit to the overall quality of the wetland and upland habitats within and adjacent to the project area. As a result, Federal listed plant and animal species within the project study area will benefit from the proposed project. Therefore, the Corps has determined that the project:

may affect, but is not likely to adversely affect the Audubon's crested caracara;

may affect the eastern indigo snake;

may affect but is not likely to adversely affect the Everglade snail kite **nor would it adversely modify** its critical habitat;

may affect, but is not likely to adversely affect the Florida panther;

may affect, but is not likely to adversely affect the wood stork.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the Corps is requesting concurrence from the U.S. Fish and Wildlife Service with the determinations for the Audubon's crested caracara, the Florida panther, the wood stork, and the Everglade snail kite, and initiating formal consultation for the determination made for the eastern indigo snake by separate letter. Additional information to support these determinations and on the effects of the A-1 Shallow FEB can be found in Chapter 4 of the *Everglades Agricultural Area A-1 Shallow Flow Equalization Basin* Draft Environmental Impact Statement dated February 2013.

The Corps also determined that the project would not affect the American crocodile, the bald eagle, the Florida grasshopper sparrow, the Florida scrub jay, the federally-listed sea turtles, the piping plover, the southeastern beach mouse, the West Indian manatee, the beach jacquemontia, four-petal pawpaw, Florida perforate cladonia, the tiny polygala, and the Okeechobee gourd. The Corps is notifying you of these determinations.

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11.0 LIST OF PREPARERS

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APPENDIX A

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (e.g., an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and contain the following information:

a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
b. instructions not to injure, harm, harass or kill this species;
c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and
d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water, then frozen.

2. Only an individual who has been either authorized by a section 10(a)(1)(A) permit issued by the Service, or designated as an agent of the State of Florida by the Florida Fish and Wildlife Conservation Commission for such activities, is permitted to come in contact with or relocate an eastern indigo snake.

3. If necessary, eastern indigo snakes shall be held in captivity only long enough to transport them to a release site; at no time shall two snakes be kept in the same container during transportation.

4. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:

a. any sightings of eastern indigo snakes;
b. summaries of any relocated snakes if relocation was approved for the project (e.g.,
locations of where and when they were found and relocated);
c. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised July 12, 1999

Chapter	Page and/or Section	Comment
Entire Document	Entire Document	text/numbers in chapters ES,2, 3, 4 and 5 have been incorporated as track changes in the attached word documents.
Entire Document	Entire Document	There has been a slight expansion in the limits of construction. Please confirm that all figures do not need to be revised in light of this expansion.
Entire Document	Entire Document	Somehow need to capture that 112.8 acre IMPACT associated with canal fill is actually a betterment (i.e. mitigation).
Entire Document	Entire Document	Need to indicate that deep FEB has additional impact of staging a lot of water on top of interior wetlands.
Entire Document	Entire Document	Suggest find all in entire document to replace "mixed scrub shrub and scrub shrub" with "exotic degraded" and replace "exotic scrub shrub" with "exotic dominated".
Entire Document	Entire Document	In various areas the A-1 project site is either described as being 15,000 acres or 16,000 acres. 16,000 acres should be used when referring to the approximate total A-1 project site and 15,000 acres should be used when referring to the "effective" area of the FEBs/STA
ES	Page ES-3	The text which reads "A-1 project site was originally purchased using Department of the Interior's (DOI) Farm Bill funds for the Central Everglades Restoration Plan…" should read Comprehensive Everglades Restoration Plan (CERP)…"
ES	Page ES-2	Statement is made that "Although phosphorus levels in the discharges from STA 2 and STA 3/4 have been reduced during the years that these STAs have been operating, these STA discharges have not achieved the WQBEL". To date, there has not been a WQBEL established for the STA's. Under the Consent Order the WQBEL will not go into effect until 2025. Suggest changing to "Although phosphorus levels in the discharges from STA 2 and STA 3/4 have been reduced during the years that these STAs have been operating, STA discharges have not consistently achieved the phosphorus concentrations described in the WQBEL that was established in 2012"
ES	Page ES-3	C. Scope of Analysis, Paragraph 1 - suggest including the Holey Land Wildlife Management Area as part of scope of analysis.
ES	Page ES-7	Table, Migratory Birds - For SFEB and DFEB, suggest changing "Requires APP" to "no adverse effects" or "no impacts" as it has not yet been determined if the SFEB or DFEP will require an APP.
4	Page 4-105	Table, Migratory Birds - For SFEB and DFEB, suggest changing "Requires APP" to "no adverse effects" or "no impacts" as it has not yet been determined if the SFEB or DFEP will require an APP.
ES	Table ES-1	In the Soils row, STA column, suggest changing "…depths on" to "...depths"
4	Page 4-105	In the Soils row, STA column, suggest changing "…depths on" to "...depths"
ES	Table ES-1	In the STA column for Water Management, what is meant by "new inflow"? Did you mean "new outflow" to convey that a new discharge canal from the A-1 STA would need to be constructed? There is not a "new inflow" for the STA alternative.
4	Page 4-105	In the STA column for Water Management, what is meant by "new inflow"? Did you mean "new outflow" to convey that a new discharge canal from the A-1 STA would need to be constructed? There is not a "new inflow" for the STA alternative.
ES	Table ES-1	Change "50,000 ac/ft" to "13,000 ac-ft per year" in the STA column for Surface Water to be consistent with Page 4-55 and Table 4.5.
4	Page 4-105	Change "50,000 ac/ft" to "13,000 ac-ft per year" in the STA column for Surface Water to be consistent with Page 4-55 and Table 4.5.
ES	Table ES-1	change "WCA 3A No change" to WCA 3A 28,000 ac-ft per year less flow with no change in ponding and hydroperiod" to be consistent with page 4-62 and Table 4.6.
4	Page 4-105	change "WCA 3A No change" to WCA 3A 28,000 ac-ft per year less flow with no change in ponding and hydroperiod" to be consistent with page 4-62 and Table 4.6.

Chapter	Page and/or Section	Comment
ES	Page ES-8/H	Within third paragraph, suggest text be added to clarify that the consumptive use evalution would be related to construction dewatering, and "possible NPDES permit" would be limited to contractor's use of NPDES Generic Permit for Stormwater Discharges from Large and Small Construction Activities.
ES	ES-2	1st paragraph - add to sentence," As a result of these technical...and Everglades Forever Act (EFA) Permits for the existing Everglades STA's and consent orders..."
ES	Table ES-1	Suggest adding a legend describing why some boxes have bold text and what the +,0,- represent in this table. In Land use row on A-1 project site under shallow FEB add "required" to land use change. Flood protection row under Deep FEB instead of "retain more flood waters" replace with "attenuate more surface water runoff."
4	Page 4-105 and 4-106	Suggest adding a legend describing why some boxes have bold text and what the +,0,- represent in this table. In Land use row on A-1 project site under shallow FEB add "required" to land use change. Flood protection row under Deep FEB instead of "retain more flood waters" replace with "attenuate more surface water runoff."
1	Page 1-6	last paragraph, date of construction completion for A-1 FEB should be March 2015.
1	Page 1-17	Figure 3 has been updated based on 60% design submittal, see attachment
1	Page 1-10/1.3.1.1	Within the second to last paragraph of this section, suggest replacing "The permit established a WQBEL and identified a suite of additional water quality improvement projects developed by the State in lieu of those in the Amended Determination to be constructed identified as the Regional Water Quality Plan (RWQP)." With "The permit established a WQBEL and identified a suite of additional water quality improvement projects developed by the State (in lieu of those in the Amended Determination), identified as the Regional Water Quality Plan (RWQP)."
2	Page 2-8	"The perimeter seepage canals constructed during the EAA A-1 Reservoir project will likely be improved to protect adjacent properties, including US Highway 27." Per the Intermediate Plans and Specs, there is no proposed work to the existing seepage canals. They are already adequate to protect adjacent properties, including US Highway 27, from an increase in water levels as a result of the Project.
2	Page 2-8	With respect to the bullet that states, "Interior levees to convey inflows to the north end of the FEB (8.7+/- miles)", the western levee was made shorter in the 60% design. The 60% Design Report states that there will be construction of approximately 6.5 miles of interior flow conveyance levees.
2	Page 2-21	"The guidelines require the evaluation of "practicable alternatives," and are used to identify the Least Environmentally Practicable Alternative (LEDPA)". Note that the this should read "Least Environmentally Damaging Practicable Alternate"
3	Page 3-10	Suggest modifying the second sentence to say " The current operating regime for WCA-3A is ERTP."
3	Page 3-15	Within the text "...For SAV-based treatment, the dominant phosphorus removal pathway bounds inorganic phosphorus while EAV treatment enhances phosphorus storage by plant uptake and peat burial..." “bounds” should be “binds”. Also seems like words are missing. SAV is characterized as promoting the binding of phosphorus with calcium. Is it possible that words were omitted?
3	Page 3-16	After the text "....STA ¾ ....The Water Year 2011 dry season resulted in dryout conditions in all cells of STA 3/4 for approximately 1 month (June 2011), sugget adding a sentence after (June 2011). Saying....."The dryout of SAV resulted in the near total loss of live vegetation."
3	Page 3-69	The abbreviation on the first and second paragraph depicted as 'NHRP' should be replace with 'NRHP'

Chapter	Page and/or Section	Comment
3	Figure 3-72	Figure has several depictions/representations that are erroneous, as follows; Boundaries of the Big Cypress Seminole Indian Reservation are erroneous; • Depiction of G-108 is not necessary (the culvert does not exist anymore); and Depictions of flows north of the G-108 label into the North Feeder canal need to be removed. Primary flows into the reservation should be depicted by basin flows, West Feeder and North Feeder
3	Page 3-73	Figure 3-24 Map Depicting the location of the lands leased by the Miccosukee Tribe of Indians of Florida within WCA 3A is mislabeling the Miccosukee Tribe Federal Reservation as leased lands
3	Page 3-15/Section 3.5.4	Within the first paragraph, "As dead plant material is accumulated in the STA, the material slowly is converted to a layer of peat soil." Peat soil forms from decomposition of emergent vegetation and more fibrous plants. In submerged aquatic vegetation cells, the decomposing plant materials form mostly mineral soil.
3	Page 3-20/Table 3.1	To match Table 5-1 from the 2013 SFER, change values in the table as follows: "2,764,199" to "2,764,250"; change "102" to "103"; change "268" to "269"; change "441" to "440". Also, some values in the paragraph above Table 3.1 will also need to be updated.
3	Page 3-13	First line of page should say "An interior levee (L-35B) across the southern …"
3	Page 3-15	First line of second to last paragraph should say "Interior levees (L-67AC) across .."
3	Page 3-15	Second paragraph, "Floridian" should be "Floridan"
3	Page 3-21	Towards the bottom of the page should state "L-39 levee between WCA 2A and WCA 1" instead of "L-39 levee between WCA 2A and WCA 2B"
3	Page 3-24	Units consistency issue: Concentrations mentioned on the lower half of this page are in "mg/l" while the rest of the document is in "ppb".
3	3.14	SFWMD Staff has updated section 3.14 and has 3 replacement figures. Please see attached.
3	Page 3-82	Within the cost section, sunk cost amount should be $180,000,000
3	Page 3-7/3.4.3	The citation for (Bottcher and Izuno needs a date and closed parantheses.
3	Page 3-26/3.7.1	Eleohant Grass should include a parenthetic reference to its genus and species (Pennisetum purpureum)
3	Page 3-34/3.8.1.1	It is unclear what is meant by "Data obtained during each SRF over the years, support the important role that hydrological conditions plays on the abundance and distributions of wading bird populations in the lower Everglades." What is the SRF?
3	Page 3-15	Under "STA Phosphorus removal" it states " EAV treatment enhances phosphorus storage by plant uptake and peat burial". This is somewhat misleading in that we need P to be removed from the "water column" in stas, whereas emergent plants uptake P primarily from the soil. STA function is better described/clarified on the next page where it is stated that "phosphorus reduction in the STAs is carried out by the various physical, chemical and biological processes, but it primarily takes place at the soil-water-plant interface, assisted by microbes in the water column and within the soil layer"
3	Page 3-9	WCAs are Everglades wetlands surrounded by levees and typically include a rim canal located on the inside of the levees next to the largely undisturbed peat soils and wetland plant communities.This statement is somewhat misleading. Suggest reword to note that soils and plant communities in close proximity to levees and canals show significant evidence of nutrient enrichment or hydrologic disturbance- but that it is not landscape wide
3	Page 3-9	STAs outflow into WCAs, which serve as surface water impoundments developed to providewater supply, water storage, flood control, and wildlife conservation (SFWMD 2007a). "a" needs to be removed from reference, and earlier on it is stated that the conservation areas are managed for environmental resource protection, a better term than just wildlife- because native flora are also part of the management criteria for these systems

Chapter	Page and/or Section	Comment
3	Page 3-27	Under "1", Sawgrass composed primarily of sawgrass (Cladium jamaicense) with cattail (Typha spp.),maidencane (Panicum hemitomon), arrowhead (Sagittaria sp.), pickerelweed (Pontederia cordata), Carolina willow, buttonbush (Cephalanthus occidentalis), wax myrtle (Myrica cerifera), and saltbush. Suggest insertion of the word "ridge" after "sawgrass", also suggest elimiantion of the other species listed becasue many are indicative of nutrient enriched conditions, so are not accurate representations of a sawgrass marsh.
3	Page 3-27	Under "2", "Wet prairie, composed of beakrush…" The WCA landscape is more typically referred to as ridge and slough- while wet prairies are a feature, particularly in WCA1, Suggest a 3rd community, slough, be added, or change this to slough along with the associated slough characteristics. Eleocharis spp., white water lily, SAV and periphyton.
3	Page 3-28	In the first paragraph, the description of tree island communities may not be consistent with how we describe them. See attached
3	3-6/3.4.2	Discussion regarding seepage canal needs to be revised to reflect its consturction just within east, west, and north, property borders.
4	4.4.2.2	Suggest the text regarding excess muck should be re-written to the effect of "Following construction of the interior and exterior levees, excess muck would be redistributed over the previously scraped areas and. (In limited cases) back sloped against the exterior face of the eastern and western interior levees.
4	4.8.2.2.1	Suggest, in this case, the 10,517 acre figure should be 14,059 (9948.9+203.2+3907.3)
4	4.12.2	Suggest, in this case, the 10,517 acre figure should be "approximately 15,000".
4	Page 4-13	"Two operable water control structures will be constructed to control FEB water levels and flows into and out of the FEB; one at the existing pump station G-370 at the North New River Canal and one at the existing pump station G-372 to collect runoff from the Miami Canal. " The second part of the sentence should be changed to read "…and one east of the existing pump station G-372, within the west levee of the FEB, to collect runoff from the Miami Canal."
4	Page 4-13	"To send water to STA 2, water would be pumped into STA 2 into the Hillsboro Canal by the S-6 pump station and into the North New River Canal by the G-434 and G-435 pump stations." The sentence should be changed to read "To send water to STA 2, water would be pumped from the North New River Canal by the G-434 and G-435 pump stations."
4	Page 4-96	4.13.2.1 sentence," A potential for damage exists for adjacent private property to the north and west of the project site" add at the end of the sentence," in the event of a levee breach"
4	Page 4-91	The abbreviation on the first paragraph depicted as 'NHRP' should be replace with 'NRHP'
4	Page 4-79/Section 4.8.1.2.3	See attached document on suggested ESA revision
4	Page 4-85/Section 4.8.2.4.2	Paragraph on traffic isn't necessarily true for levees. See attached document on suggested ESA revision
4	Page 4-90/Section 4.8.3	The least tern was omitted as a state listed, 4.8.3.1, and migratory bird species, 4.8.3.4, in the document. Least terns were known to have nested in the southern portion of the project previously while under construction. Killdeer also should be mentioned under the migratory bird portion, 4.8.3.4 - See attchedment for suggested language.
4	Page 4-66/ Section 4.6.1.2	Extreme wet conditions would likely continue to result in water depth durations that are longer and deeper than optimal, excessive hydraulic loading rates and phosphorus loading rates to the STAs, or diversion of untreated water around the STAs into the EPA. Suggest to change "Extreme wet conditions" to "high flows resulting from storm events."
4	Page 4-2	Please replace Figure 4-1 with updated figure (attached) which provides accurate spatial extents of each of the three models used in this EIS.

Chapter	Page and/or Section	Comment
4	Page 4-3	Please change Appendix D to Appendix E. And ensure entire document refers to Appendix E for model info. Suggest adding "SFWMM" before "Model Documentation Report" here and throughout document to clarify which MDR is being referred to as both DMSTA and RSM MDRs will be provided for inclusion into Appendix E.
4	Page 4-5	Add "Although the DMSTA results are summarized for water years May 1, 1965 through April 30, 2005, the simulation is conducted for January 1, 1965 through December 31, 2005; which is used as input for the RSM." to the end of 2nd paragraph.
4	Page 4-14	Suggest changing text as follows "The source basins and their average annual flow volumes simulated by the SFWMM **and post-processed as described above** are provided in Table 4-1."
4	Page 4-19	Suggest change "days of surface water inundation on average per year" to "plots of percentages of time that ponding depths equal or exceed specified values"
4	Page 4-21	Water levels are approximately between 0.3 feet to 2.8 feet above ground level 90 percent of the time. This sentence should be changed to read "Water levels are approximately between 0.3 feet below ground level to 2.8 feet above ground level 90 percent of the time."
4	Page 4-34	suggest removing the two sentences before Table 4-3 starting with "However, the Shallow FEB…" and "Therefore, the Deep FEB…" This comparison of the "use of water" for each of the alternatives does not seem appropriate, especially considering the scale of difference (1,000-3,000 acre-feet/year out of 250,000-340,000 or 0.8%).
4	Page 4-45	change "acre-feet per feet" to "acre-feet per year"
4	Page 4-64 & 4-65	In general, lower phosphorus concentrations in the water column coming from the STAs into the WCAs would not increase soil phosphorus concentrations in the soils at the WCA discharge points as less phosphorus in the water would leach into the soils than currently does. Florida's Everglades total phosphorus criterion rule specifies a definition of impacted as being where soil TP exceeds 500 milligrams TP per kilogram of soil; therefore, if the TP concentrations in the soils are below 500 milligrams per kilograms, these soils would be considered unimpacted. Suggest replacing text with the sentences from Page 4-107: "Lower phosphorus concentrations discharged from the STA 2 and STA 3/4 would reduce the rate of soil phosphorus accumulation in WCA soils. Over time, reductions in soil total phosphorus will help facilitate the restoration of impacted areas near the inflow points to WCA 2A and WCA 3A creating conditions more conducive to historic Everglades vegetative communities."
4	Page 4-70	4.6.2.3 and 4.6.2.4, in first sentence, remove the word "outflow" as table 4-13 only displays inflow
4	Page 4-105	Table 4-16 surface water row, if no changes the "0" should not be bolded
4	4.14	SFWMD Staff has updated section 4.14. Please see attached document.
4	Page 4-65	4.6 Water Quality section, 1st paragraph - sentence, " Each STA is required to discharge at the WQBEL…" should be clarified that "Each STA is required to discharge at the WQBEL after all the corrective actions identified in the consent orders associated with the NPDES and EFA permits have been completed in 2025."
4	Page 4-98	Table 4-15, total cost of the No Action Alternative should be $0

Chapter	Page and/or Section	Comment
4	4.11.2	Suggest replacing "There are several factors that need to be considered in deciding which activities may be allowed, such as how would recreational activities affect water quality and the health and function of the vegetation community structure and how would water depths vary over time and how would these varying water levels affect recreation" with (under a new paragraph) "Each action alternative would follow a prescribed recreational planning process utilizing information from the flooding and optimization period. There are several project purposes and recreational management factors that would be considered. Typical recreational activities considered are hiking, biking, wildlife viewing, hunting, and fishing. When deciding which activities may be allowed, project purposes are primary and considerations include how recreational activities affect water quality and the health and function of the vegetation community structure and how water depths vary over time."
4	4.11.2.1	Suggest replacing the Alternative 2 discussion with "As discussed above, once the Shallow or Deep FEB is constructed there would be a flooding and optimization period. Once the flooding and optimization phase is complete, the recreational plan for the project will be developed to maximize recreational opportunities compatible with the project purpose."
4	4.11.2.1	Suggest replacing the Alternative 4 discussion with "Under the STA alternative, recreational activities would be consistent with recreational opportunities allowed in the other existing STAs (e.g., hiking, biking, wildlife viewing, hunting, fishing). Opportunities for all these typical activities would generally increase, in comparison to the no action alternative, if the STA alternative were implemented. Many waterfowl and wading birds take advantage of other STAs in the region for nesting and foraging."
4	4.12.2	Aesthetic character describes "expansive open water areas" while our general understanding is that we contemplate expansive emergent vegetation. Second the vista is described as those passing by the site however I think the view would be most likely of the levee not the internal site.
4	Page 4-94, 4.11.2.1	suggest changing "no" to "passive"
4	Page 4-72/4.7.1.1.1	Suggest parenthetic reference to its Elephant Grass's genus and species (Pennisetum purpureum) be italicized.
4	Page 4-4	Text states: "The DMSTA was used to simulate EAA runoff surface water routing, and estimate the phosphorus removal performance of the STAs and Flow Equalization Basins (FEBs) in the alternatives". Suggest removing the word "runoff".
4	Page 4-72	See tracked changes suggestions of section 4.7 Vegetation
4	Page 4-73	Text states: "Existing vegetation at the site would be removed during construction and replaced with vegetation similar to what is found in existing STAs as per the SFWMD planting guidelines for STAs". Suggest rewording the above sentence with, "Existing undesirable vegetation at the site would be replaced with vegetation similar to what is found in existing STAs as per the SFWMD vegetation management guidelines for STAs."
4	Page 4-75	Alternative 4 (STA): Anticipated vegetative responses from reductions in phosphosphorus. Correct spellling of phosphorus.

Chapter	Page and/or Section	Comment
4	Page 4-76	Text states: 4.7.2.1.2 STA 2, STA 3/4, WCA 2A, WCA 3A, Holey Land. There would be a continued degradation to downstream wetlands with the no action alternative due to inflows of nutrient laden waters. As written there is no recognition that the SFWMD has already constructed and is operating over 50,000 acres of STAs. Suggest rewording this as follows: With the No Action Alternative, although the existing STAs are achieving substantial TP treatment performance levels, discharges to the downstream wetlands would continue to exceed optimal levels thereby creating conditions that are less favorable to the restoration of the wetlands. See attachment
4	Page 4-77	Text states: There are no impacts to downstream wetlands with any of the action alternatives. Improved water quality resulting from the action alternatives would slow the spread of nuisance cattail within these areas (especially the WCAs) causing an overall improvement in wetland conditions. There is not sufficient evidence to support this claim. Suggest rewording to say with the action alternatives, discharges to the downstream wetlands will no longer exceed optimal levels which in turn will promote conditions more favorable to the restoration of the wetlands. See attachement
4	Page 4-4/4.2.1	Within the last paragraph of this section, suggest changing "detailed design" to “detailed evaluation”.
4	Page 4-102/4.19.4	This entire section is outdated as the LOER program is no longer in existance. Please eliminate this section in its entirity. It has been subsumed by the Northern Everglades program described in Section 4.19.6
4	4-108/4.22	Under the first paragrah in the Water Quality section, please remove the word "water" from the first sentence, which currently reads "The purpose of the project is to assist STA-2 and STA 3/4 in meeting water the WQBEL.."
TOC and Acronyms	Page 2 of Acronyms	Change definition of “Long-Term Plan” from "Water Quality Goals" to “Long-Term Plan for Achieving Water Quality Goals in Everglades Protection Area Tributary Basins”
1	Page 1-7	Change “Everglades Protection Area Tributary Basins Conceptual Plan for Achieving Long-Term Water Quality Goals (Long-Term Plan)” to “Long-Term Plan for Achieving Water Quality Goals in Everglades Protection Area Tributary Basins” and add reference “(Burns & McDonnell 2003)”
4	Page 4-2	Replace "The modeling reports for the SFWMM, DMSTA and RSM describe the modeling methods in detail. Appendix E presents the results of model simulations, and performance measure graphics for the alternatives." with "The Model Documentation Reports for SFWMM, DMSTA and RSM describe the methods and assumptions in detail and are provided in Appendix E. Performance measure graphics for the alternatives are provided within Section 4."
4	Page 4-90	Section 4.8.4: “In the event that conditions become favorable for nesting, the Avian Protection Plan for Black-necked Stilts and Burrowing Owls Nesting in the Everglades Agricultural Area Stormwater Treatment Areas will be implemented (SFWMD 2008).” suggest adding at the end " for the STA alternative. The need for an APP for the FEB alternatives has not yet been determined."
8	Page 8-2	Section 8.4: Change “Pump stations would be required for the action alternatives,” to “New pump stations would likely be required for some of the action alternatives,”
8	Page 8-2	Section 8.5: Change “long-term plan” to “Long-Term Plan” Delete last sentence
8	Page 8-2	Section 8.6: Strike the word "deep FEB or" from last sentenace.
8	Page 8-2	Section 8.7: change "is not required for the shallow FEB or deep FEB alternative, but would be required for the construction of the STA." to "is required for all action alternatives.".
8	Page 8-3	Why isn’t Section 8.8 (Clean Air Act (Title V) Permit) combined with Section 8.4 (Clean Air Act)?
4	Page 4-49	add "and S-7 pump station" after "L-6 Canal" and add ", as compared to the No Action Alternative" after "northwest WCA 2A"
4	Page 4-52	add "and S-7 pump station" after "L-6 Canal"

Chapter	Page and/or Section	Comment
4	Page 4-64	Section 4.5.4.1: add more info on the periods or record for STA-2 and STA-3/4 to provide context to the dryout occurrences/frequency info provided such as "STA-2 became operational in WY2000. STA-3/4 became operation in WY2004."
4	Page 4-64	Section 4.5.4.2: "The primary objective of ~~the Action~~ Alternatives **2 and 3** is to improve delivery rates to STA 2 and STA 3/4 by attenuating and temporarily storing peak stormwater flows to assist with the achievement of the WQBEL."
1	Page 1-21	Section 1.5.2.2: change "Protection" to "Agricultural"
Cover and Abstract	Page A-1	change "Protection" to "Agricultural"
ES	ES-2	change "into the Central Flowpath of the Everglades Protection Area" to "in the Central Flowpath of the Everglades Agricultural Area"
4	Page 4-34	Section 4.5.2.2.1: "**For Alternatives 2 and 3, w**~~W~~hen the water is released from the project site, it would either enter STA 2 or STA 3/4 before being released into the WCA 2A or 3A."
4	Page 4-35	Section 4.5.2.2.1: changed "from with 10% to 90% probabilities" to "with median, quartile, and 10th and 90th percentiles"
4	Page 4-35	Section 4.5.2.2.1: At four locations, change "percent of the year" to "percent of the time"
4	Page 4-33	Add "- Alternative 1" at end of Figure names for Figures 4-23 and 4-24
4	Page 4-34	Add "- Alternative 1" at end of Figure names for Figure 4-25
4	Page 4-40	Table 4-4: change the Alt. 4 diversion voume "10,000" to "15,000"
4	Page 4-45	remove "This is because additional water would be provided to WCA 2A."
4	Page 4-5	Section 4.2.2: Line 2: change "measures" to "depths"
4	Page 4-7	Section 4.2.3: change "2015-2025" to "2015-2020" to be consistent with the rest of Chapter 4
4	Page 4-7	Section 4.2.3: change "in Appendix E" to "throughout Chapter 4" or similar, as RSM performance measures/results were provided within the chapter instead of in an Appendix as originally thought.
Appendix E	Appendix E	Suggest dividing Appendix E into three sections: South Florida Water Management Model (SFWMM), Dynamic Model for Stormwater Treatment Areas (DMSTA), and Regional Simulation Model (RSM) to mirror Section 4 organizational structure. Move the SFWMM Model Documentation Report (MDR) (currently located at Appendix pages 167-191) to the SFWMM section. Add the DMSTA MDR (to be provided) to the front of the DMSTA section and add DMSTA model sheets (currently located at Appendix pages 139-166) after the DMSTA MDR. Replace the RSM Table of Assumptions (currently located at Appendix pages 192-195) with RSM MDR (to be provided)
4	Page 4-10	Section 4.4.1.2: change "North Atlantic Vertical Datum" to "North American Vertical Datum"
4	Page 4-10	Section 4.4.1.2: add "for Alternatives 2 and 3" to the end of the first paragraph.
3	Page 3-5	Section 3.3.3: "The Holey Land is ~~another parcel of land that was also~~ managed for ~~flood protection, water supply storage, and~~ environmental resource protection. ~~However, since 2008, no inflow or outflows have occurred in the Holey Land and the area is currently managed for environmental resource purposes.~~"
4	Page 4-55	change "60,000 acre-feet more per year" to "60,000 acre-feet less per year"
3	Page 3-5	Remove "Within the Central Flowpath,"
3	Page 3-14	change "existed through the G-372HL" to "exists through the G-372HL"
3	Page 3-20	change "flow-capable in April 2012" to "permitted to operate in September 2012"
3	Page 3-20	change "13 ppb, the concentration" to "the WQBEL, the criterion"
3	Page 3-75	Section 3.13: Suggest adding additional text that helps explain that the STAs are integral components of the flood protection system, and work in conjunction with the WCAs.

Chapter	Page and/or Section	Comment
4	Page 4-8	Section 4.3.1: Suggest **removing** Holey Land from the list of areas that would "continue to store flood waters for beneficial municipal, urban, and agricultural uses and would continue to provide flood protection, water supply storage." It shuold really only continue to provide "environmental resource protection".
4	Page 4-68	Change outflow TP load from "14.8" to "7.9" in SFEB column.

Chapter	Page and/or Section	Reviewer	Comment	Response
2	Page 2-4	HESM	First bullet, evaluation misspelled as "evaluatation"	
2	Page 2-5	HESM	Suggest some rationale be added to the statement "Although pond apple slough restoration project could provide environmental benefits, there is no evidence that it would ensure achievement of the WQBEL."	
2	Page 2-7	HESM	In the 2010 AD, the USEPA proposed that a the A-1 project site be utilized as an STA to maximize phosphorus uptake. Please delete "a" and change "an" to "a".	
2	Page 2-8	HESM	Construction of the Shallow FEB would result in impacts to 537 acres of waters of the US to include 296.5 acres of fill to construct the levee and 164.5 acres of fill to raise the elevation of canals and ditches, as well as the discharge of fill material associated with canal excavation into 75.8 acres of waters fo the US. Please change "fo" to "of"	
2	Page 2-8	HESM	The majority of the Shallow FEB outflows (approximately 80%) will be will be directed to STA 3/4 for treatment while the remaining, please delete duplicated "will be"	
2	Page 2-9	HESM	with canal excavation into 75.8 acres of waters fo the US, please change "fo" to "of".	
2	Page 2-10	HESM	2.4.4, second paragraph, correct "could be reasonably be"	
2	Page 2-10	HESM	As previously mentioned, the USEPA's AD proposed that a the A1 Site be utilized as an STA, should read as "As previously mentioned, the USEPA's AD proposed that the A1 Site be utilized as a STA".	
3	Page 3-69	Armando Ramirez	Second to last sentence the word 'agriculture' should be replaced with 'agricultural'	
3	Page 3-34	HESM	Second paragraph, raccoon misspelled, also misspelled in the table	
4	Page 4-1	HESM	Towards the bottom of the page: "Three models were integrated into …" instead of "Three modeling efforts were integrated into …	
4	Page 4-3	HESM	Suggested wording: …"period of simulation (or selected period of record)…" instead of "…period of simulation (or period of record)…"	
4	Page 4-4	HESM	Spelling consistency in first paragraph as for the rest of the document: "south Florida" instead of "South Florida"	
4	Page 4-13	HESM	4.5.1.2.2 suggest changing one of the two "would be" phrases in a row	

RECEIVED
MAR 18 2013
PALM BCH GRDNS. REGULATORY OFFICE
JAX DISTRICT, USACE

FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

March 7, 2013

Ms. Alisa Zarbo
Jacksonville USACE
Palm Beach Regulatory Office
4400 PGA Blvd, Suite 500
Palm Beach Gardens, Florida 33410

Re: DHR Project File No. 2013-00771/ Received by DHR: February 22, 2013
Applicant: Southwest Florida Water Management District
Application No.: 2005-00053 (IP-AAZ)
Project: Everglades Agricultural Area A-1 Shallow Flow Equalization Basin
County: Palm Beach

Dear Ms. Zarbo:

Our office received and reviewed the referenced project application in accordance with Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665), as amended in 1992; 36 C.F.R., Part 800: Protection of Historic Properties for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places.

Our review of the Florida Master Site File indicates that because of the nature of the project it is unlikely that any historic or archaeological resources will be adversely impacted by the proposed project.

If you have any questions concerning our comments, please contact Michael Hart, Historic Sites Specialist, at 850.245.6333, or at Michael.Hart@dos.myflorida.com. Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,

Timothy A. Parsons, DSHPO for

Robert F. Bendus, Director
Division of Historical Resources
and State Historic Preservation Officer

FLORIDA PANTHER
CONSERVATION

6118 Deer Run
Ft. Myers, FL 33908
tel. 239.633.8375
fax. 239.267.4517
WWW.PANTHERCONSERVATION.COM

Received
MAR 29 2013
Jacksonville District
USACE

March 21, 2013

Mr. Larry Williams
Field Supervisor
United States Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Reference: Draft Environmental Impact Statement; Everglades Agricultural Area A-1, Shallow Flow Equalization Basin in Palm Beach County, Florida

Dear Mr. Williams:

Florida Panther Conservation, LLC is owned and operated by brothers whose family history goes back 5 generations in Florida. We established the first compensatory Habitat Conservation Bank in Florida (the first in the nation for the Florida panther). Subsequently, we have added a second bank and are working on the third and evaluating sites for a fourth. In all our efforts, the primary concerns have been and will continue to be; Preserving and Protecting the resource and Profitability.

We proudly concede to those who might criticize our intentions and or these comments, in that our company might stand to gain financially if the Service requires the South Florida Water Management District (SFWMD) to provide compensatory habitat mitigation for the referenced project.

However, I assure you our objections are based upon the finding in the Draft Environmental Impact Statement (DEIS) that the project will not adversely affect the Florida panther!

We aren't qualified to evaluate the potential effectiveness of the project from a water quality perspective. However, we firmly believe that this action, if approved, would adversely affect the Panther as well as other species currently utilizing this site!

According to the DEIS, the South Florida Water Management District (SFWMD) is proposing to construct a Shallow Flow Equalization Basin (FEB) on the 16,152 acre A-1 site, in the Everglades Agricultural Area (EAA) in Palm Beach County. The FEB impoundment will be constructed on 15,000 acres in the A-1 and is designed to hold water to a maximum depth of 4 feet.

As you know, this area was historically panther habitat and is currently actively being used by panthers, panther prey and other animals as documented in the DEIS.

While we willingly concede that the dikes and new roadways will probably be used extensively and effectively by the panthers to move from one area to another. It seems inconceivable that the increase in human activity to service and maintain the FEB control structures and pumping stations would not adversely affect the panther. Additionally, creating a 15,000 acre open water impoundment, 4 feet deep, would effectively remove over 23 square miles of panther foraging area for a significant portion of the year.

We respectfully urge you to reconsider the findings in the DEIS and in conjunction with Colonel Dodd of the US Army Corps of Engineers, require that SFWMD provide; suitable, high quality habitat mitigation that is both Approved and Certified, prior to issuing the requested Federal Permit.

Respectfully,

Leslie D. Alderman, Jr.
Managing Member

CC James M. Alderman
Constance Cassler, PhD.
Alan M. Dodd, Colonel, USA
Victoria Foster
Melissa L. Meeker
Nancy Payton
Tori White

Florida Power & Light Company, P.O. Box 14000, Juno Beach, FL 33408-0420
700 Universe Boulevard

FPL

VIA E-MAIL

March 26, 2013

Ms. Alisa Zarbo
Alisa.A.Zarbo@usace.army.mil
Department of the Army
Jacksonville District Corps of Engineers
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, Fl 33410

Subject: Everglades Agricultural Area A-1 Shallow Flow Equalization Basin
Draft EIS Comments
File 2005-00053(IP-AAZ)

Dear Ms. Zarbo:

Florida Power & Light has performed a review of the Everglades Agricultural Area A-1 Shallow Flow Equalization Basin (FEB) Draft EIS and requests that the following comments be considered for Section 5.1.1 in future versions of the EIS.

Section 5.1.1, Environmental Commitments, Best Management Practices, BMP #8 states that "*Although not anticipated for any of the Action Alternatives, if relocation of utility lines is needed, the SFWMD shall coordinate formally with Florida Power and Light once the design process is complete.*"

Florida Power & Light (FPL) recommends that coordination with FPL begin as early in the design process as possible to avoid or minimize any impacts to existing FPL infrastructure (see attached map) and to facilitate the implementation of any new FPL infrastructure to deliver power to project facilities.

If you have any questions, please contact me at (561) 691-2820.

Thank you,

Agnes S. Ramsey
Sr. Environmental Specialist,
Environmental Services

Cc: Leah Oberlin, USACE
Florette Braun, FPL

North Bay Distribution Line
Old Talisman Line
Palm Beach / Broward County Line
FPL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

APR 04 2013

Colonel Alan M. Dodd
District Engineer
Palm Beach Gardens Regulatory Field Office
Jacksonville District Corps of Engineers
Attn: Ms. Alisa Zarbo
4400 PGA Blvd., Suite 500
Palm Beach Gardens, Florida 33410

Subject: South Florida Water Management District; Permit Appl. No. SAJ-2005-0053

Dear Colonel Dodd:

This letter is in response to the above referenced public notice for authorization to construct a 15,000 acre impoundment referred to as a shallow Flow Equalization Basin (FEB), within waters of the U.S. on the former A-1 Reservoir project site in the Everglades Agricultural Area (EAA), in western Palm Beach County, Florida. This project is one of a number of projects required by the National Pollutant Discharge Elimination System permit and Consent Order issued by the Florida Department of Environmental Protection (FDEP) to the South Florida Water Management District (SFWMD) to operate the Stormwater Treatment Areas (STAs) and, as discussed below, is designed to operate in tandem with the STAs to achieve the Water Quality Based Effluent Limit (WQBEL) in the STA permit. The SFWMD is proposing to construct the A-1 FEB and on February 22, 2013, your office released a Draft Environmental Impact Statement (DEIS) requesting public and agency comments on the proposed construction and operation of the A-1 FEB. The U.S. Environmental Protection Agency is a cooperating agency on the DEIS and will be providing your office with specific comments on the A-1 FEB DEIS in a separate correspondence.

The proposed Shallow FEB (maximum depth of four feet) is intended to attenuate peak water flows and temporarily store excess water from within the central EAA, collected by the North New River and Miami Canals and to subsequently improve inflow delivery rates to the downstream STA 2 and STA 3/4. By managing basin runoff in the Central EAA Flowpath in a more advantageous manner, the impacts of storm driven events would be reduced for STA 2 and STA 3/4. The proposed Shallow FEB will also improve operations of the STAs in the dry season by providing water to the STAs during the periods of drought and low water conditions to prevent dry-out of the treatment cells. Attenuating and managing excess water flows in the Central Flowpath will enhance operations and improve phosphorus treatment performance in STA 2 and STA 3/4 so that these STA discharges meet the WQBEL.
The A-1 project site is approximately 16,152 acres and is bordered to the east by US Highway 27, to the south by STA 3/4, to the west by an area known as the Holey Land Wildlife Management Area and to the north by agricultural lands. Construction of the A-1 FEB would result in impacts to 537 acres of waters of the U.S. to include 296 acres of fill to construct the levee, 165 acres of fill to raise the elevations of canals and ditches, as well as the discharge of fill associated with canal excavation into 78 acres of waters of the U.S. Construction of the A-1 FEB would also inundate approximately 10,500 acres of low quality on-site wetlands.

The EPA has worked cooperatively and closely with your Palm Beach Gardens Regulatory Division staff as well as with the SFWMD staff to develop the DEIS and I would like to complement both your staff and the SFWMD staff for their efforts in developing the DEIS under an expedited time schedule.

An EPA Region 4, staff biologist participated in interagency site inspections of the proposed A-1 FEB site on October 29, 2012, and December 5, 2012. The October 29th site inspection was in the company of your Regulatory Division project manager and also involved staff from the SFWMD, the FDEP and the U.S. Fish and Wildlife Service. The main focus of these site inspections was evaluation of the functional quality of the on-site wetlands and conducting wetland Uniform Mitigation Assessment Methodology (UMAM) evaluations.

The EPA strongly supports the expedited permitting and construction of the A-1 FEB, which will play an important role in improving water quality conditions in the Everglades and contribute to accomplishing the world's largest ecosystem restoration effort, an effort that our mutual agencies are working hard to achieve.

Chapter Five and Appendix C of the A-1 FEB DEIS fully address mitigation issues associated with construction of the FEB. Appendix C provides a November 20, 2012, SFWMD A-1 FEB mitigation proposal which utilizes UMAM. As a result of the October 29, 2012, and December 5, 2012, interagency site inspections, the SFWMD revised their A-1 FEB mitigation proposal and UMAM evaluation in a February 27, 2013, submittal. The EPA has reviewed the February 27th submittal and we recommend that the UMAM risk factor for the following four Assessment Areas: Prior Existing Exotic Dominated Wetlands (203 acres); Exotic Dominated Wetlands (10,504 acres); Canal and Ditches (113 acres) and Upland Roads and Berms (1,215 acres), be increased (higher risk) respectively to 1.5, 1.5, 1.75 and 1.75. Use of our recommended UMAM risk factors would result in an approximate 17.5 percent decrease in the projected functional gain resulting from project implementation, reducing the overall project's net surplus of UMAM functional units to 1,639 functional units.

Thank you for the opportunity to comment on this request for authorization. If you have any questions regarding our comments, please contact Mr. Eric Hughes at (904) 232-2464.

Sincerely,

James D. Giattina
Director
Water Protection Division

cc: Mr. Nimmy Jeyakumar, South Florida Water Management District

Ms. Sharon Kocis, U.S. Fish and Wildlife Service

Mr. Steve Mortellaro, U.S. Fish and Wildlife Service

Mr. Jerilyn Ashworth, Florida Department of Environmental Protection

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

April 5, 2013

Leah Oberlin
Chief, Palm Beach Gardens Regulatory Office
Jacksonville District, U.S. Army Corps of Engineers
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, FL 33410

SUBJECT: Draft Environmental Impact Statement (DEIS) for A1 Shallow Flow Equalization Basin (A1 FEB)

Dear Ms. Oberlin:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Draft Environmental Impact Statement (EIS) in accordance with its responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The applicant, the South Florida Water Management District (SFWMD), proposes construction of the A1 FEB reservoir to improve inflow delivery rates to STA 2 and STA 3/4 by attenuating peak water flows and temporarily storing water runoff primarily from the central Everglades Agricultural Area (EAA). The project purpose as stated in the DEIS by the Jacksonville District, U.S. Army Corps of Engineers (USACE) is to achieve the Water Quality Based Effluent Limit (WQBEL) for phosphorus at the STA 2 and STA 3/4 discharge points in the Central Flowpath of the Everglades Protection Area. According to the SFWMD the A1 FEB will assist in maintaining minimum water levels and reducing the frequency of dryout conditions within STA 2 and STA 3/4. This should increase the phosphorus treatment performance of these STAs in order to achieve the WQBEL.

Alternatives considered were Alternative 1: No Action, Alternative 2: Shallow Flow Equalization Basin (Applicant's Proposed Action), Alternative 3: Deep Flow Equalization Basin and Alternative 4: Stormwater Treatment Area. The preferred alternative and other alternatives considered are located within western Palm Beach County Florida. The preferred alternative is the construction of A1 FEB (Alternative 2), which is a shallow above-ground impoundment for the temporary storage of stormwater runoff, with a capacity of approximately 60,000 acre-feet at an approximate maximum operating depth of 4 feet. Project features include: gated inflow structures, inflow conveyance channels and interior levees, outflow collection and conveyance canal and gated outflow structures. As a result of the project construction, approximately 536.8 acres of waters of the United States (US), including wetlands, would be impacted by the placement of fill and approximately 10,500 acres of waters of the US would be inundated (up to four feet of water depth). As proposed, the project will manage basin runoff in the Central Flowpath in a more advantageous manner by reducing the impacts of storm-driven events to STA 2 and STA 3/4 and will improve operations during periods of drought and low water flows. Attenuating and managing excess water flows in the Central Flowpath will enhance operations

and improve phosphorus treatment performance in the STA 2 and STA 3/4 complex to insure that these STA discharges meet the WQBEL. Discharges from these STAs flow into WCA 2A and WCA 3A, part of the Everglades Protection Area (EPA) marsh where the 10 ppb long term geometric mean numeric phosphorus criterion applies. EPA has made comments on the SFWMD's Permit Application (No. SAJ-2005-0053) in a separate letter dated April 4, 2013.

As a Cooperating Agency, the EPA worked collaboratively with the USACE and the SFWMD staff to develop the DEIS. EPA would like to compliment both the USACE and the SFWMD staff for their efforts in developing the DEIS under an expedited time schedule.

Overall, the EPA supports the recommendations in the DEIS and the preferred alternative. The EPA strongly supports the expedited permitting and construction of the A1 FEB. The project will play an important role in improving water quality conditions in the Everglades and contribute to accomplishing the world's largest ecosystem restoration effort, an effort that our mutual agencies are working hard to achieve. We have minor comments regarding wetlands mitigation, tribal consultation and environmental justice. These are discussed in the Detailed Comments attachment.

We rate this document LO (Lack of Objections with the proposed action). Attached is a summary of definitions for EPA ratings. We appreciate the opportunity to review the proposed action. Please contact Jamie Higgins at (404) 562-9681 if you want to discuss our comments.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Environmental Accountability

Attachments

A1 FEB DEIS EPA Detailed Comments

Wetlands:

1. As noted in the EPA letter (reference *South Florida Water Management District; Permit Appl. No. SAJ-2005-0053*, dated April 4, 2013), EPA recommends the UMAM risk factor for the following four Assessment Areas: Prior Existing Exotic Dominated Wetlands (203 acres); Exotic Dominated Wetlands (10,504 acres); Canal and Ditches (113 acres) and Upland Roads and Berms (1,215 acres), be increased (higher risk) respectively to 1.5, 1.5, 1.75 and 1.75. See referenced letter for specific details.

Impacted Species:

2. On page 4-79, 4.8.1.2.2 STA 2 and STA 3/4, the DEIS discusses impacts to nesting birds, but makes no mention the species of nesting birds. EPA recommends the Corps either mention the species of impacted nesting birds or reference it if previously mentioned in the DEIS.

Environmental Justice/Tribal:

3. On page 4-99, 4.17 Environmental Justice, the DEIS discusses Environmental Justice (EJ) communities, but does not clearly identify EJ communities. Has the Corps identified EJ communities? If so, where are they located in relationship to the project? The Corps discusses positive impacts to the EJ communities, but does not describe the location of these communities or their demographic make-up. EPA recommends that the Corps consider identifying EJ communities, better describe these EJ communities and pictorially illustrate any EJ communities located near the project.

4. The DEIS includes a copy of the invitation to consult with the Seminole Tribe, as well as discussion of the Seminole Tribe's request to be a cooperating agency. There is no documentation of consultation with the Miccosukee Tribe, although the methodology section does include a statement of consultation with both Tribes, and incorporates specific instructions given by the Miccosukee Tribe. It is not clear whether the Corp has actively engaged both Tribes in meaningful consultation. EPA encourages consultation with the Seminole Tribe and the Miccosukee Tribe at all levels of decision-making. The EPA works closely with both Tribes on Everglades matters and is committed to working with other federal partners to prioritize the Tribes' water quality and water management concerns.

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL IMPACT STATEMENT (EIS) RATING SYSTEM CRITERIA

EPA has developed a set of criteria for rating Draft EISs. The rating system provides a basis upon which EPA makes recommendations to the lead agency for improving the draft.

RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

$ LO (Lack of Objections): The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.

$ EC (Environmental Concerns): The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.

$ EO (Environmental Objections): The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental objections can include situations:

1. Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;
2. Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;
3. Where there is a violation of an EPA policy declaration;
4. Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or
5. Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.

$ EU (Environmentally Unsatisfactory). The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions.

1. The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;
2. There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or
3. The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.

RATING THE ADEQUACY OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS)

$ 1 (Adequate). The Draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

$ 2 (Insufficient Information): The Draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the Draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the Final EIS.

$ 3 (Inadequate): The Draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the Draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the Draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised Draft EIS.

A-1 Flow Equalization Basin Draft Environmental Impact Statement Comments
by H. M. Quackenbos, April 6, 2013

You have built a strong case for this basin. Through storage it will provide a more even flow to the STAs. They will supply a more reliable flow of very low phosphorus content required for the Everglades National Park. With some shuffling of funds you will need only a small amount of new money.

So far fine, but one snag. Excess fill created on site will be dumped into a wetland of 296 acres. With the present public concern for wetlands you may be pressed to replace this wetland by a new one, created on site or elsewhere. You appear to have evaluated the whole site of 15,000 acres and found that the upgradings far offset the blemish of 296 acres. I agree with you.

Now about the report, mainly the first volume:

- Well organized. Listing of contents, tables, and figures very helpful.

- Well written without the ponderous prose adopted by so many agencies.

- Great art work – maps, for example.

- You have rounded numbers to three places. Enough for highly variable natural systems, and sometimes two places would be enough.

- I offer one little suggestion. You have expressed phosphorus levels as µg/L or ppb. There is a minute gap between the two of less than one in a thousand. Why not use just ppb? The other will baffle most readers, and will introduce a metric unit into the array of English units normally used for natural systems.

In summary the two volumes, Principal and Appendix constitute a valuable up-to-date handbook on an important area of the Everglades. It's a keeper.

I entered this project too late to enlist partners so I'm listing myself as a committee of one.

H. M. Quackenbos

H. M. Quackenbos
1776 NW Palmetto Terrace
Stuart, FL 34994
(772) 692-1451

April 8, 2013

Alisa Zarbo
U.S. Army Corps of Engineers
Jacksonville District
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, FL 33410

Dear Ms. Zarbo:

This letter contains public comment on the *Draft Environmental Impact Statement for Everglades Agricultural Area A-1 Shallow Flow Equalization Basin project* dated February 22, 2013. These comments are submitted on behalf of the Everglades Foundation, a 501(c)(3) not-for-profit organization dedicated to the restoration of America's Everglades.

The Everglades Foundation supports Alternative 2, the Shallow Flow Equalization Basin (FEB), which is the applicant's proposed action. We applaud the U.S. Army Corps of Engineers and the South Florida Water Management District's efforts to expedite construction of this project. This is one project that is essential to meeting the goal of improving the quality of influent water to the Everglades and protecting the ecological integrity of the Everglades ecosystem.

The science staff at the Everglades Foundation has thoroughly reviewed the technical foundation of the report, especially Appendix E. While the analyses of this environmental impact statement are partially predicated on the April 27, 2012 final version of the *Restoration Strategies Regional Water Quality Plan* produced by the South Florida Water Management District, there are some noticeable differences. For example, this EIS did not include treatment of pass-through water supply releases from Lake Okeechobee, while the *Restoration Strategies* document did treat that water. Similarly, the *Restoration Strategies* document assumes the FEB contains healthy emergent vegetation (responsible for 30-40% of phosphorus uptake of the project) while it is not clear in the EIS that this was fully considered in the comparisons between the FEB, the Stormwater Treatment Area and the deep reservoir.

Everglades Foundation
18001 Old Cutler Road, Suite 625 ◆ Palmetto Bay, FL 33157
Phone: 305.251.0001 ◆ Fax: 305.251.0039 ◆ evergladesfoundation.org

We do, however, understand that the design and operations presented in the April 27, 2012 *Restoration Strategies* plan have already changed and will continue to change in the near future. We will continue to work with the state of Florida and the U.S. Army Corps of Engineers to ensure that the final design and operations of the Restoration Strategies plan meet their intended and stated purpose yet move forward with all requisite speed.

Sincerely,

Eric Eikenberg
CEO, The Everglades Foundation

CC: SFWMD

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MARJORY STONEMAN DOUGLAS BUILDING
3900 COMMONWEALTH BOULEVARD
TALLAHASSEE, FLORIDA 32399-3000

RICK SCOTT
GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

April 18, 2013

Ms. Alisa A. Zarbo
Palm Beach Gardens Permits Section
U.S. Army Corps of Engineers
4400 PGA Blvd, Suite 500
Palm Beach Gardens, FL 33410

RE: Department of the Army, Jacksonville District Corps of Engineers – Permit Application No. SAJ-2005-00053(IP-AAZ), Draft Environmental Impact Statement, Everglades Agricultural Area A-1 Shallow Flow Equalization Basin (FEB) Project – Palm Beach County, Florida.
SAI # FL201302226508C

Dear Ms. Zarbo:

The Florida State Clearinghouse has coordinated a review of the subject Draft Environmental Impact Statement (EIS) under the following authorities: Presidential Executive Order 12372; § 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Department of Environmental Protection's (DEP) Office of Ecosystem Projects requests that the EIS be updated to reflect that the U.S. Army Corps of Engineers (USACE) is a party to the Settlement Agreement and Consent Decree. Staff notes that the USACE is not included in the list of Federal agencies that comprise the United States (as defined in the Settlement Agreement) on Page 1-7. The DEP consent orders that accompany the NPDES and Everglades Forever Act (EFA) watershed permits for the construction, operation and maintenance of the Everglades Stormwater Treatment Areas (STAs) require the design and construction of a series of six key projects, including the Everglades Agricultural Area (EAA) A-1 FEB, as identified in the State's Restoration Strategies Regional Water Quality Plan. Although the main document correctly identifies the need for an EFA permit, the Executive Summary (page ES-8) incorrectly notes that state requirements that will need to be satisfied for the A-1 FEB project "include Comprehensive Everglades Restoration Plan Regulation Act (CERPRA) permit, a consumptive use evaluation during the CERPRA Permitting process…." Staff advises that though the DEP issued a CERPRA permit for construction of the EAA reservoir as originally envisioned under CERP, that permit has expired. Since the EAA site has now been identified for use to meet the requirements of the EFA, an EFA permit will be required for construction and operation of the FEB. Please update the EIS where relevant to reflect this change, and note that the DEP is currently processing the application from the South Florida Water Management District (SFWMD).

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The DEP supports the preferred alternative #2 for the Shallow FEB and recognizes that the project will self-mitigate for the wetland and surface water impacts. As part of the review of the SFMWD's permit application, DEP staff has been working with the SFWMD and federal agencies to finalize the Uniform Mitigation Assessment Method (UMAM) documentation that analyzes both the wetland impacts and project benefit. DEP supports the "A-1 Mitigation Proposal dated February 27, 2013" submitted by the SFWMD that documents the updated UMAM scores, functional loss, functional gain, time lag and risk. Please refer to the enclosed DEP memorandum and contact Ms. Stacey Feken at Stacey.Feken@dep.state.fl.us or (850) 245-3176 for additional information.

The Florida Fish and Wildlife Conservation Commission (FWC) notes that staff provided comments on the SFWMD's permit application and received a copy of the SFWMD's response as well. FWC staff has identified some concerns within the draft EIS, however, that should also be addressed. All federally and state-listed species should be taken into account when analyzing a project and its alternatives. Two state-listed species, the Florida burrowing owl and least tern, are known to nest within or near the project site. A few state-listed wading birds may also be affected by the project. FWC requests that SFWMD clarify that the planned wildlife surveys conducted prior to and during construction will include both federally and state-listed species. Compliance with all construction protection measures continues to be recommended.

Since the project will hold water and attract wildlife, staff recommended that project design and operation also consider on-site fish and wildlife habitat and benefits. Although the FWC appreciates and understands the project purpose, there is a significant potential for increased fish and wildlife benefits without jeopardizing the anticipated goals of the project. Due to the continued decline of available wildlife habitat throughout the state and reduced size of the remaining Everglades ecosystem, wildlife habitat restoration or improvements should be implemented whenever possible. Recommendations for the incorporation of features to increase wildlife habitat and enhance future recreational opportunities are included in the enclosed FWC letter. Please don't hesitate to contact Mr. Chuck Collins, Regional Director, at (561) 625-5122 or Chuck.Collins@MyFWC.com for further assistance and future coordination.

The Florida Department of Agriculture and Consumer Services' (FDACS) Office of Agricultural Water Policy reports the following agency concerns regarding the potential for A-1 FEB construction and operations to, either directly or indirectly, impact future regional water availability for agriculture:

1) The A-1 FEB will reduce the volume of water delivered from the STAs to the Everglades Protection Area by an average of 37,000 acre-feet per year (*EIS, Table 4-4, page 4-40*) and to the Everglades National Park by an average of 20,000 acre-feet per year. This reduction in flow is the result of a trade-off between water quality and water quantity for the Everglades that the USACE is willing to accept in order to reduce the phosphorus concentration entering the Everglades Protection Area through STA-3/4 from 18 ppb to 13 ppb (*EIS, Table 4-12, page 4-69*). This is an important outcome of the project that should be discussed in the EIS. The FDACS recommends that this reduction in flow to

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the Everglades be explicitly recognized in the EIS as an outcome of the Everglades Restoration Strategies and assurances be given that there will be no additional deliveries from Lake Okeechobee to compensate for this reduction in flow volumes.

2) The A-1 FEB construction footprint occupies land originally intended for the CERP EAA Reservoir Project. This CERP project included a water supply component for agricultural use that was intended to transfer some irrigation demands away from Lake Okeechobee and provide an improved level of service for the EAA producers (*"This feature will..., meet supplemental agricultural irrigation demands, and increases flood protection within the EAA." CERP Chief of Engineer's Report, page 14*). The original CERP plan is now being further pre-empted by the Central Everglades Planning Process (CEPP), which recommends constructing another FEB on the remaining CERP EAA Reservoir project footprint. The combination of the A-1 FEB evaluated in this EIS, and the additional FEB proposed in the CEPP constitutes a major change to the CERP both in design and performance. Since the A-1 FEB draft EIS takes the first step in making this change, it should include a discussion acknowledging this result and indicate that steps should be taken in the CEPP process to provide some of the improvement to the water supply level of service that was contemplated in CERP.

For additional information, please contact Mr. W. Ray Scott, Conservation and Water Policy Federal Programs Coordinator, at (850) 617-1716 or WRay.Scott@freshfromflorida.com.

The Florida Department of Transportation (FDOT) District Four staff advises that U.S. 27 is a Strategic Intermodal System highway. Any work that occurs within or adjacent to FDOT right-of-way may require that additional permits be obtained through the District Permits Office. Also, should the need for lane closures or traffic channeling on the state roadway system arise, Maintenance of Traffic Plans may be necessary. Please contact Ms. Christine Bacomo, P.E., of the FDOT District Four Permits Office at (954) 777-4377 for further assistance with the above state requirements.

The SFWMD is a partner with the USACE in Everglades restoration and supports the implementation of the EAA A-1 Shallow FEB Project. As the permit applicant, the SFWMD has played an integral role in designing the recommended alternative presented in the draft EIS. Consequently, the SFWMD is uniquely positioned to provide valuable input for inclusion by the USACE in the EIS. The SFWMD has provided detailed technical as well as editorial comments directly to the USACE to assist them in improving the completeness, accuracy and clarity of the EIS. For project specific questions, please contact Ms. Jennifer Leeds, Lead Project Manager, at (561) 682-6088 or jleeds@sfwmd.gov.

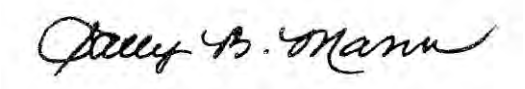
Based on the information contained in the draft EIS and enclosed agency comments, the state has determined that, at this stage, the proposed federal action is consistent with the Florida Coastal Management Program (FCMP). To ensure the project's continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activities' compliance

Florida State Clearinghouse

with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during this and subsequent regulatory reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the state's environmental permitting process, in accordance with Section 373.428, *Florida Statutes*.

Thank you for the opportunity to review this proposal. Should you have any questions regarding this letter, please contact Mr. Chris Stahl at (850) 245-2169.

Yours sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/cjs
Enclosures

cc: Ernie Marks, DEP, OEP
Chad Kennedy, DEP, OEP WPB
Scott Sanders, FWC
W. Ray Scott, FDACS
Martin Markovich, FDOT
John Morgan, SFWMD

Florida State Clearinghouse

Project Information

Project:	FL201302226508C
Comments Due:	04/04/2013
Letter Due:	04/23/2013
Description:	DEPARTMENT OF THE ARMY, JACKSONVILLE DISTRICT CORPS OF ENGINEERS - PERMIT APPLICATION NO. SAJ-2005-00053(IP-AAZ), DRAFT ENVIRONMENTAL IMPACT STATEMENT, EVERGLADES AGRICULTURAL AREA A-1 SHALLOW FLOW EQUALIZATION BASIN (FEB) PROJECT - PALM BEACH COUNTY, FLORIDA.
Keywords:	ACOE - PERMIT DEIS, EAA A-1 SHALLOW FEB PROJECT - PALM BEACH CO.
CFDA #:	99.997

Agency Comments:

AGRICULTURE - FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

The FDACS reports the following staff concerns: 1) The A-1 FEB will reduce the volume of water delivered from the STAs to the Everglades Protection Area by an average of 37,000 acre-feet per year (EIS, Table 4-4, page 4-40) and to the Everglades National Park by an average of 20,000 acre-feet per year. This reduction in flow is the result of a trade-off between water quality and water quantity for the Everglades that the Corps is willing to accept in order to reduce the phosphorus concentration entering the Everglades Protection Area through STA-3/4 from 18 ppb to 13 ppb. (EIS, Table 4-12, page 4-69). This is an important outcome of the project that should have been discussed in the EIS. We recommend that this reduction in flow to the Everglades be explicitly recognized in the EIS as an outcome of the Everglades Restoration Strategies and assurances be given that there will be no additional deliveries from Lake Okeechobee to compensate for this reduction in flow volumes. 2) The A-1 FEB construction footprint occupies land originally intended for the CERP EAA Reservoir Project. This CERP project included a water supply component for agricultural use that was intended to transfer some irrigation demands away from Lake Okeechobee and provide an improved level of service for the EAA producers. ("This feature will..., meet supplemental agricultural irrigation demands, and increases flood protection within the EAA.") Now the original CERP plan is being further pre-empted by the CEPP, which recommends constructing another FEB on the remaining CERP EAA Reservoir project footprint. The combination of the A-1 FEB evaluated in this EIS, and the additional FEB proposed in the CEPP constitutes a major change to the CERP both in design and performance. The A-1 FEB EIS should include a discussion acknowledging this result and indicating that steps should be taken in the CEPP process to provide some of the improvement to the CERP water supply level of service.

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

The DEP's Office of Ecosystem Projects requests that the EIS be updated to reflect that the USACE is a party to the Settlement Agreement and Consent Decree. Staff notes that the USACE is not included in the list of Federal agencies that comprise the United States (as defined in the Settlement Agreement) on Page 1-7. The consent orders that accompany the NPDES and Everglades Forever Act (EFA) watershed permits require the design and construction of a series of six key projects including the EAA FEB, as identified in the State's Restoration Strategies Regional Water Quality Plan. Although the main document correctly identifies the need for an EFA permit, the Executive Summary (page ES-8) incorrectly notes that state requirements that will need to be satisfied for this project, "include Comprehensive Everglades Restoration Plan Regulation Act (CERPRA) permit and a consumptive use evaluation during the CERPRA Permitting process...." Please note that though the DEP issued a CERPRA permit for construction of the EAA reservoir as originally envisioned under CERP, that permit has expired. Since the EAA site has now been identified for use to meet the requirements of the EFA, an EFA permit will be required for construction and operation of the FEB. Please update the EIS where relevant to reflect this change, and note that the DEP is currently processing the application from the SFWMD. The DEP supports the preferred alternative #2 for the Shallow FEB and recognizes that the project will self-mitigate for the wetland and surface water impacts. As part of the review of the SFMWD's permit application, DEP staff has been working with the SFWMD and federal agencies to finalize the UMAM documentation that analyzes both the wetland impacts and project benefit. DEP supports the "A-1 Mitigation Proposal dated February 27, 2013" submitted by the SFWMD that documents the updated UMAM scores, functional loss, functional gain, time lag and risk.

STATE - FLORIDA DEPARTMENT OF STATE
No Comments Received
SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT
The South Florida Water Management District (SFWMD) is a partner with the United States Army Corps of Engineers (USACE) in Everglades Restoration and supports the implementation of the Everglades Agricultural Area A-1 Shallow Flow Equalization Basin (FEB) Project. As the permit applicant, the SFWMD has played an integral role in designing the recommended alternative presented in the Draft Environmental Impact Statement (EIS). Consequently, the District is uniquely positioned to provide valuable input for inclusion by the USACE in the EIS. The District has provided detailed technical as well as editorial comments directly to the USACE to assist them in improving the completeness, accuracy and clarity of the EIS. For project specific questions, please contact Jennifer Leeds, Lead Project Manager, at (561) 682-6088 or jleeds@sfwmd.gov. If you have comments or questions regarding these comments, please contact John Morgan, Lead Policy Analyst, at (561) 682-2288 or jmorganj@sfwmd.gov.
COMMUNITY PLANNING - FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
The FWC notes that staff provided comments on the SFWMD's ERP application and received a copy of the SFWMD's response as well. FWC staff has identified some concerns within the Draft EIS, however, that should also be addressed. All federally and state-listed species should be taken into account when analyzing a project and its alternatives. Two state-listed species, the Florida burrowing owl and least tern, are known to nest within or near the project site. A few state-listed wading birds may also be affected by the project. FWC requests that SFWMD clarify that the planned wildlife surveys conducted prior to and during construction will include both federally and state-lited species. Compliance with all construction protection measures continues to be recommended. Since the project will hold water and attract wildlife, staff recommended that project design and operation also consider on-site fish and wildlife habitat and benefits. Although the FWC appreciates and understands the project purpose, there is a significant potential for increased fish and wildlife benefits without jeopardizing the anticipated goals of the project. Due to the continued decline of available wildlife habitat throughout the state and reduced size of the remaining Everglades ecosystem, wildlife habitat restoration or improvements should be implemented whenever possible. Recommendations for the incorporation of features to increase wildlife habitat and enhance future recreational opportunities are included in the enclosed FWC letter. Please contact Mr. Chuck Collins, Regional Director, at (561) 625-5122 or Chuck.Collins@MyFWC.com for further assistance and future coordination.
TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION
FDOT District Four staff advises that U.S. 27 is a Strategic Intermodal System highway. Any work that occurs within or adjacent to FDOT right-of-way may require that additional permits be obtained through the District Permits Office. Also, should the need for lane closures or traffic channeling on the state roadway system arise, Maintenance of Traffic Plans may be necessary. Please contact Ms. Christine Bacomo, P.E., of the FDOT District Four Permits Office at (954) 777-4377 in order to learn about requirements that may pertain to the project.
TREASURE COAST RPC - TREASURE COAST REGIONAL PLANNING COUNCIL
The application is consistent with the Strategic Regional Policy Plan. It furthers Regional Goal 6.9 - Protection and sustainability of the Everglades Ecosystem; and Strategy 6.9.1 - Manage and restore the Everglades ecosystem to ensure a sustainable future.
PALM BEACH -

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
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Memorandum

TO: Lauren Milligan, Florida State Clearinghouse

THROUGH: Ernie Marks, Director
Office of Ecosystem Projects

FROM: Stacey Feken, Jerilyn Ashworth and Jordan Pugh

DATE: April 12, 2013

SAI#: FL201302226508C

SUBJECT: Department of the Army, Jacksonville District Corps of Engineers – Permit Application No. SAJ-2005-00053(IP-AAZ), Draft Environmental Impact Statement, Everglades Agricultural Area A-1 Shallow Flow Equalization Basin (FEB) Project – Palm Beach County, Florida.

Background:
The United States Army Corps of Engineers (USACE) prepared a Draft Environmental Impact Statement (DEIS) in response to the South Florida Water Management District (SFWMD) request for regulatory authorization from the USACE, in the form of a Department of the Army permit pursuant to Section 404 of the Clean Water Act, to construct a shallow Flow Equalization Basin (FEB) on the A-1 project site in the Everglades Agricultural Area (EAA). The SFWMD will also request approval for a land use change from the United States Department of the Interior/U.S. Fish and Wildlife Service (USFWS) since portions of the A-1 Site were purchased with federal Farm Bill Funds.

The Shallow FEB is an above-ground 60,000 acre-foot impoundment with a maximum operating depth of 4 feet. The Shallow FEB would be constructed on 16,152 acres of land situated north of Stormwater Treatment Area (STA) 3/4 and between the Miami and North New River Canals in the EAA. As proposed, construction of the Shallow FEB would place fill within 296.5 acres of freshwater marsh wetlands to construct levees, place fill within 164.5 acres of canals to create appropriate wetland elevations, and excavate 75.8 acres of canals and ditches. Operation of the shallow FEB would inundate and improve the quality of 10,517 acres of jurisdictional wetlands and 1,147.65 acres of uplands to create an emergent marsh habitat.

The SFWMD is required to obtain a Department of the Army permit pursuant to Section 404 of the Clean Water Act. The DEIS evaluates the environmental effects of four (4) alternatives: the No Action Alternative, the SFWMD's Preferred Alternative (the Shallow FEB), a deep FEB Alternative, and a Stormwater Treatment Area Alternative. The overall project purpose, as defined by the USACE, is to achieve the Water Quality Based Effluent Limit at the STA 2 and STA 3/4 discharge points in the Central Flowpath of the Everglades Protection Area. To achieve this, the Shallow FEB project would retain and deliver water at improved timing to the STAs so that the STAs perform at a more optimized efficiency.

Comments:
Please update the EIS to reflect that the USACE is a party to the Settlement Agreement and Consent Decree. We note the USACE is not included in the list of Federal agencies that comprise the United States (as defined in the Settlement Agreement) on Page 1-7.

As acknowledged in the DEIS, the Florida Department of Environmental Protection (Department) issued the final National Pollution Discharge Elimination System (NPDES) watershed permit (File No. FL0778451) and associated consent order (OGC# 12-1148) for the operation and maintenance of the Everglades STAs, and an Everglades Forever Act (EFA) watershed permit (File No. 0311207) and associated consent order (OGC# 12-1149) for the construction, operation and maintenance of the Everglades STAs to the SFWMD on September 10, 2012. These documents are issued pursuant to the requirements of the EFA, Section 373.4592, Florida Statutes (F.S.), and the NPDES program delegated to the State of Florida, pursuant to Title 122, Code of Federal Regulations, and Section 403.088, F.S.

The consent orders that accompany the NPDES and EFA watershed permits require the design and construction of a series of six key projects, including the EAA FEB, as identified in the State's Restoration Strategies Regional Water Quality Plan. The first phase includes the design and construction of a 60,000 acre-foot FEB in the central flowpath of the EAA, adjacent to 31,800 acres of existing and newly completed STAs (STA-3/4, STA-2 and Compartment B) and utilizing construction already completed for the EAA A-1 Reservoir started under the Comprehensive Everglades Restoration Plan (CERP).

Though the main document correctly identifies the need for an EFA permit, the Executive Summary (page ES-8) incorrectly notes that state requirements that will need to be satisfied for this project "include Comprehensive Everglades Restoration Plan Regulation Act (CERPRA) permit, a consumptive use evaluation during the CERPRA Permitting process…." Please note that though the Department issued a CERPRA permit for construction of the EAA reservoir as originally envisioned under CERP, that permit has expired. Since the EAA site has now been identified for use to meet the requirements of the EFA as described above, an EFA permit will be required for construction and operations of the FEB. Please update the EIS where relevant to reflect this change, and note that the Department is currently processing the application from the SFWMD. This appears to be acknowledged in Section 8.5, but it is not clear what is meant by the statement on page 8-2, "SFWMD has submitted applications implement new permit-related compliance for monitoring." Also note that the consumptive use evaluation for projects permitted under EFA differs than that under CERPRA; please contact the Department's Office of Ecosystem Projects for more information.

The EIS notes that an area of potential controversy that has been identified is mitigation for wetland impacts, and that the USACE has concerns with the SFWMD's proposed mitigation plan for the Deep FEB and the STA alternatives. Please note that the Department supports the preferred alternative #2 for the Shallow FEB and recognizes that the project will self-mitigate for the wetland and surface water impacts. As part of the review of the SFMWD's permit application, the Department has been working with the SFWMD, USFWS, EPA, and the

USACE to finalize the Uniform Mitigation Assessment Method (UMAM) documentation that analyzes both the wetland impacts and project benefit. The Department supports the "A-1 Mitigation Proposal dated February 27, 2013" submitted by the SFWMD to the Department on March 4, 2013, that documents the updated UMAM scores, functional loss, functional gain, time lag, and risk. Please consider making the following changes to the EIS related to the UMAM to reflect the most current information:

a. Replace the document dated November 20, 2012, in Appendix C with the "A-1 Mitigation Proposal dated February 27, 2013."
b. Please also update the types of wetlands documented in Chapter 5 of the EIS to be consistent with the terminology used in the "A-1 Mitigation Proposal dated February 27, 2013."
c. Throughout the EIS, UMAM is incorrectly referred to as the "Unified Mitigation Assessment Methodology". Please change it to the "Uniform Mitigation Assessment Method" as outlined in Chapter 62-345, Florida Administrative Code.

The Department sincerely appreciates the opportunity to comment. We support the preferred alternative (shallow FEB) and recommend that the USACE continue to work closely with the SFWMD to facilitate issuance of the 404 permit for this project and ensure the requirements of the state EFA and NPDES watershed permits and associated consent orders are met.

ec: Ernie Marks, Frank Powell, Stacey Feken, Joss Nageon de Lestang, Kelli Edson, Deinna Nicholson, Chad Kennedy, Jerilyn Ashworth, Jordan Pugh

Florida Fish and Wildlife Conservation Commission

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Managing fish and wildlife resources for their long-term well-being and the benefit of people.

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March 29, 2013

Lauren Milligan
Florida State Clearinghouse
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, FL 32399
Lauren.milligan@dep.state.fl.us

Re: SAI #FL201302226508C, Draft Environmental Impact Statement for Everglades Agricultural Area A-1 Shallow Flow Equalization Basin, Palm Beach County

Dear Ms. Milligan:

The Kissimmee-Okeechobee-Everglades-Big Cypress Coordination Team of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated our agency's review of the above-referenced project, and provides the following comments in accordance with Chapter 373, Florida Statutes, and the Coastal Zone Management Act/Florida Coastal Management Program. We are also sending a copy to the U.S. Army Corps of Engineers under the Fish and Wildlife Coordination Act.

Project Description

The South Florida Water Management District (SFWMD) was issued a permit to construct the Acceler8 A-1 Reservoir, a 12.5-foot-deep impoundment with a storage capacity of 190,000 acre/feet, in July 2006; however, construction was stopped before completion and the permit expired in July 2011. The primary project purpose of water storage in the footprint of the original A-1 Reservoir has been replaced with a new mandate to improve water quality standards through construction of the Everglades Agricultural Area (EAA) A-1 Shallow Flow Equalization Basin (FEB). The overall purpose of the Shallow FEB is to achieve the Water Quality Based Effluent Limit at the Stormwater Treatment Area (STA) 2 and STA 3/4 discharge points in the Central Flowpath of the Everglades Protection Area. To achieve this, the Shallow FEB would retain and deliver water at improved timing to the STAs so that the STAs perform at a more optimized efficiency. This above-ground 60,000-acre foot impoundment, with a maximum operating depth of 4 feet, would be constructed on 16,152 acres of land situated north of STA 3/4 and between the Miami and North New River Canals in the EAA with Holey Land Wildlife Management Area to the southwest. The Draft Environmental Impact Statement (DEIS) evaluates the environmental effects of four alternatives, which include a No Action Alternative, a Shallow FEB, a Deep FEB, and a STA.

Issues and Recommendations

The FWC previously provided comments on the SFWMD's Environmental Resource Permit Application for this project in a letter to Ms. Jordan Pugh dated October 15, 2012. The SFWMD responded to these comments via the Florida Department of Environmental Protection in a letter dated March 4, 2013. While the FWC appreciates the SFWMD's response, we have identified the following concerns within the DEIS that should be addressed:

State-listed species: We continue to recommend taking all federally and state-listed species into account when analyzing a project and its alternatives. Two state-listed species, the Florida burrowing owl (*Athene cunicularia floridana*) and least tern (*Sternula antillarum*), are known to

nest within or near this project site. In addition, the following state-listed wading birds may be affected by the project: the limpkin (*Aramus guarauna*), white ibis (*Eudocimus albus*), tricolored heron (*Egretta tricolor*), little blue heron (*E. caerulea*), rosease spoonbill (*Ajaja ajaja*), and snowy egret (*E. thula*). The FWC previously recommended that wildlife surveys be conducted, including surveying for state-listed species, in the project area. We commend the SFWMD's efforts to date with regards to threatened and endangered species coordination and preliminary wildlife surveys. We request that SFWMD clarify that the wildlife surveys that will be conducted prior to and during construction will include both federally and state-listed species.

In the case where these species may be impacted by construction, we continue to recommend compliance with all federal and state regulations and recommendations concerning each individual species. Specifically, construction protection measures in compliance with the Migratory Bird Treaty Act concerning nesting, the eastern indigo snake and the Florida burrowing owl. The Florida burrowing owl inhabits open native prairies and cleared areas that offer short groundcover; these areas include pastures, agricultural fields, golf courses, and vacant lots. Burrowing owls have been known to excavate nest burrows on unnatural elevated areas such as road berms, canal banks, drainage tiles and levee sides. We ask that the FWC be notified if any burrows are detected during construction so that we can work with the SFWMD to avoid take of any individual burrowing owls, which are protected by Chapter 379, Florida Statutes, and Rule 68A-27.005(e)4., Florida Administrative Code. Although the burrowing owl is not necessarily considered a "water resource," ensuring that no take will occur will assist in complying with the Coastal Zone Management Act/Florida Coastal Management Program.

Additionally, we note an inconsistency in the DEIS regarding the black-necked stilt. Table 3-4 (Section 3.8.1.2) lists the black-necked stilt as observed; however, according to the response letter dated March 4, 2013, no sightings of the black-necked stilt were observed within the project footprint.

Incorporate features to increase habitat value within project construction footprint: While FWC recognizes that this project is designed to provide benefit away from the footprint, we continue to recommend that it provide what direct benefit it can to fish and wildlife and not pose additional unnecessary risks, such as entrapment and predation, to wildlife. Regardless of the intended purpose or where benefits are intended to be realized, by the very nature of holding water, it will draw wildlife, including migrating shorebirds and wading birds depending on the water regime. For that reason, design and operation consideration must be given to on-site fish and wildlife habitat and benefits. Several of the specific recommendations below were provided in our previous commenting letter; however, they were not specifically addressed in either the response letter or the DEIS.

Benefits for fish and wildlife will not be counter to the stated purpose of the Shallow FEB. We strongly advocate that our recommendations be incorporated into the project's design plan and such plans be included in the Final EIS. We appreciate and understand the purpose of this project; however, there is much potential for greater fish and wildlife benefits without jeopardizing the anticipated goals of the project. Habitat loss is often cited as the leading reason that plant and animal populations are declining (Endries et. al 2009). Due to the continued decline of available wildlife habitat throughout the state of Florida and the reduced size of the remaining Everglades ecosystem, wildlife habitat restoration or improvements should be implemented whenever possible.

We recommended that embankments be stabilized with native vegetation or geotextile material without the use of soil concrete, wave run-up steps, parapets, or other vertical features. Armored, vertical features, particularly steps and parapets, pose grave entrapment and injury risks to wildlife, such as aquatic turtles and migratory birds.

Sloping littoral shelves provide zones of appropriate hydroperiods for plant diversity and habitat for fish spawning and wading bird foraging during water level manipulation (CERP Interagency Star Team 2005, see Table 2). Deep water refugia designed into the project would provide refuge for aquatic fauna as well as foraging potential for wading birds during dry-down. In short, we ask that the SFWMD give due consideration to the 24 recommendations for fish and wildlife contained in the CERP Interagency Star Team report to help FWC meet its conservation goals and objectives for listed wading bird species as defined in FWC's draft Species Action Plan for Six Imperiled Wading Birds.

The DEIS states that SFWMD plans to fill 164.5 acres of existing ditches and canals within the project footprint to create appropriate wetland elevations. However, leaving existing ditches and canals in place would increase water storage, provide varied bathymetry to benefit fish and wildlife habitat, and provide deep water refugia. In addition to leaving existing ditches and canals, we also recommend taking the opportunity to add additional varied contours within the footprint as part of this project or as a separable element prior to flooding to benefit fish and wildlife. The St. Johns River Water Management District has demonstrated success regarding this recommendation:
http://reservoirpartnership.org/Newsletters/RFHP_Newsletter_Vol_4_Issue%204.pdf.

We also continue to recommend that clusters and/or individual trees or snags be left standing within the project area. Existing mature trees provide perching, nesting, and roosting structure for wildlife. This action will also help minimize wildlife displacement during and following construction activities.

Recreation: This project would likely attract a variety of wading birds and waterfowl, and be suitable habitat for an assortment of fish species. We continue to recommend that the designs incorporate features to provide for, and enhance, future recreational opportunities. Such features could include installing boat ramp(s), sculpting the floor to create varied depths at full pool and deep water refugia at minimum pool, leaving standing timber in place to provide perching, nesting, and roosting structure for wildlife, and using levee top surface materials conducive to hiking and biking. Additionally, most of these recreational features also enhance the wildlife habitat value of the project and coincide with the recommendations provided earlier in this letter.

As publicly funded projects that could offer recreational opportunities, these impoundments should be open to the public. Thus, the need for exclusionary fencing should be evaluated, particularly where it may contribute to entrapment and unnatural predation risks for wildlife. Is it anticipated that this project would provide at least similar recreational opportunities as current STAs? Section 4.11.2.1 states that recreation opportunities will be implemented after the flooding and optimization phase; however, we recommend that fishing and boating access to the interior collection canal be anticipated and planned for now.

As previously mentioned, the DEIS states that SFWMD plans to fill 164.5 acres of existing ditches and canals within the project footprint to create appropriate wetland elevations. In addition to benefits to fish and wildlife, leaving existing ditches and canals in place would increase both water storage capabilities and recreational opportunities. The FWC and our stakeholders supported the original A-1 Reservoir due to the benefits of water storage and recreational opportunities. The Deep FEB (Alternative 3) would provide similar results that were expected from the original A-1 Reservoir. The Shallow FEB can provide many of the anticipated benefits associated with deep water refugia for fishing and boating.

Additionally, we request that a specific recreation plan be included in the Final EIS that incorporates public facilities such as boat ramps and parking.

Summary

The FWC supports the continued development of the A-1 Shallow FEB and the anticipated ecological benefits that this project can provide. We request to continue to be involved with the process. With incorporation of our recommendations, we would anticipate this project to be consistent with the rules and regulations of the FWC as listed under the Florida Coastal Management Program.

We appreciate the opportunity to provide comments on this project. If you or your staff would like to coordinate further on the recommendations contained in this letter, please contact me at (561) 625-5122 or email me at chuck.collins@myfwc.com, and I will be glad to help make the necessary arrangements. If you or your staff has any specific questions regarding our comments, I encourage them to contact Ms. Susanna Toledo in our Sunrise Field Office at (954) 746-1789 or at susanna.toledo@myfwc.com.

Sincerely,

Chuck Collins

Chuck Collins
Regional Director

cc/st
ENV 1-3-2
Everglades Agricultural Area A-1 Shallow Flow Equalization Basin Draft EIS_17279_032913
cc: Michael Anderson, FWC, Michael.Anderson@myFWC.com
Marsha Ward, FWC, Marsha.Ward@myFWC.com
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Kevin Palmer, FWS, Kevin_Palmer@fws.gov
Alisa Zarbo, USACOE, Alisa.a.zarbo@usace.army.mil

References Cited

CERP Interagency STAR Team. December 2005. Fish and Wildlife Recommendations for Comprehensive Everglades Restoration Plan Stormwater Treatment Area and Reservoir Operation and Design.

Endries, M., B. Stys, G. Mohr, G. Kratimenos, S. Langley, K. Root, and R. Kautz. 2009. Wildlife Habitat Conservation Needs in Florida. Fish and Wildlife Research Institute Technical Report TR-15.

SEMINOLE TRIBE OF FLORIDA

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Tribal Officers:

JAMES E. BILLIE
Chairman

TONY SANCHEZ, JR.
Vice Chairman

PRISCILLA D. SAYEN
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MICHAEL D. TIGER
Treasurer

VIA ELECTRONIC MAIL
AND HAND DELIVERY

April 30, 2013

Ms. Alisa Zarbo
U.S. Army Corps of Engineers
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, FL 33410

Re: Everglades Agricultural Area A-1 Flow Equalization Basin

Dear Ms. Zarbo:

The Seminole Tribe of Florida ("STOF") is in receipt of the Draft Environmental Impact Statement ("DEIS") for the A-1 Flow Equalization Basin ("FEB"). We appreciate the opportunity to provide comments on the DEIS. Please accept the following as STOF's initial comments concerning both environmental and cultural resource issues. The National Environmental Policy Act ("NEPA") requires the United States Army Corps of Engineers ("USACE") to consult with the STOF in order to ensure the USACE takes a "hard look" at all the potential impacts to the human environment: including those that are of interest to the STOF. NEPA is a procedural requirement that does not mandate a substantive outcome. 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 [STOF's] best interests[1]" Consequently, the USACE's trust obligation does require a substantive outcome: namely, one that is in the best interest of the STOF. The STOF requests further consultation on the A-1 FEB project to address the STOF's concerns outlined in summary format below:

Environmental Concerns:

A. Water Rights Compact

The STOF strongly disagrees with the USACE's characterization of the Water Rights Compact. The DEIS misrepresents the water studies associated with the Compact by implying the STOF concurred that these studies quantified all of the water the STOF is entitled to receive. The STOF has repeatedly stated to the USACE that the Compact did not address water supply for

[1] American Indian Policy Review Commission, Final Report (commissioned by the United States Congress) (1997)

sustaining tribal natural resources and customary usage rights. Further, the STOF has repeatedly requested the USACE direct supplemental water toward the Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and its Addition lands for that purpose. The DEIS does not even mention the discussions on supplemental water supply and instead appears to erroneously imply that all of the STOF's water needs have been adequately addressed. In fact, the DEIS only provides that the USACE consulted with the STOF on impacts to wetlands, water quality, flood protection, and wildlife. This description fails to acknowledge the multiple conversations the USACE has had with the STOF concerning supplemental water supply for its native lands (undeveloped lands). In sum, the STOF's water needs have not been adequately addressed or discussed in the DEIS.

The STOF requests that the DEIS be revised to include the consultations regarding supplemental water supply for tribal natural resources and customary usage rights. Further, the DEIS should address in detail the STOF's native lands supplemental water supply needs, including a discussion of the STOF proposed alternatives to direct supplemental water to the Big Cypress Seminole Indian Reservation and Big Cypress National Preserve and its Addition lands (and NEPA assessment of the feasibility of such alternatives). Failure to include the requested discussions is a failure of the USACE's trust obligation to meaningful consult with the STOF and does not comply with the USACE's NEPA obligations.

B. Independent Utility and Cumulative Impacts

The STOF is also concerned with the scope of the NEPA cumulative impacts analysis. The A-1 FEB project is interrelated with multiple downstream and upstream water control projects/structures; however, the DEIS does not adequately address the cumulative impacts (environmental and cultural) of the A-1 project and the related projects. The USACE appears to avoid a full cumulative impacts analysis of related projects by determining the A-1 FEB project has independently utility. The question is not whether the project could have independent utility but whether it will actually be operated as an independent project. In this case, it is clear that the A-1 FEB operations are interrelated with both upstream and downstream water control projects; water enters the A-1 FEB from upstream structures and feeds downstream water control projects. The USACE should evaluate the cumulative impacts of the A-1 FEB operations in conjunction with upstream and downstream projects (existing and future). The A-1 FEB is a component of a much larger water control system requiring a more holistic NEPA assessment of upstream and downstream components along with the A-1 FEB component.

C. Water Sources

The project area was previously designed as a reservoir in order to reduce Lake Okeechobee regulatory releases to the estuaries and provide water storage for other uses such as rehydrating the Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and its Addition lands. The STOF is concerned that the revised plan of constructing a "flow equalization basin" fails to capture significant amounts of water that will be sent to the estuaries; water that could be used to address the STOF's water needs for natural resources and customary usage. The USACE should

design an alternative that stores and makes use of the waters set to be discharged to the estuaries similar to what was originally planned.

Although the project is called a flow equalization basin, it appears it will serve the same function as a reservoir in that it will be used to control water flows by storing water for a period of time. Therefore, there is no practical difference in a flow equalization basin and a reservoir except for how much time surface water is detained. Consequently, the USACE must do a "saving clause" analysis of the A-1 FEB detailing how existing water uses and flood protection will not be impacted by the project. This includes evaluating the increased competition for water during droughts. It appears that the A-1 FEB will be utilized to keep STA 2 and 3/4 hydrated during dry periods, which ultimately means less water is available for other legal users including the STOF. The STOF takes issue with competing with the STAs for water flowing through the A-1 FEB during drought periods. The USACE should revised the DEIS to address how STOF water supply needs (including supplemental water supply needs) will be accounted for in A-1 FEB operations during times of drought.

D. Flow Routes and Flow Operations

The DEIS briefly details how water currently flows into the Big Cypress Seminole Indian Reservation. However, the DEIS does not clearly describe how or if the A-1 FEB operations will impact those existing flow routes and operations for its betterment or detraction. The DEIS should be revised to provide a detailed discussion of how flow routes and operations into the Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and its Addition lands will operate once the A-1 FEB is operational. This question also raises concerns with the timing and magnitude of water flows through the system from Lake Okeechobee to WCA-3A. The Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and Addition are downstream of the A-1 FEB. Consequently, the timing, magnitude and nature of the flows are important factors to consider in identifying and addressing potential impacts to the STOF's interests.

E. Impacts to Tribal Lands and Usage Rights

Finally, the DEIS does not address the potential impacts to the STOF's Big Cypress Seminole Indian Reservation and its customary usage rights within the area (e.g., Big Cypress National Preserve, Northwest Corner of WCA-3A, and potential spreader swale in the future Central Everglades Planning Project system changes west of S-8 Pump Station in WCA-3A). Presumably, the A-1 FEB will be providing water to a suite of projects included in the Central Everglades Planning Project. Therefore, the A-1 FEB is a project that is related to a broader landscape of restoration projects. The DEIS should be revised to address the potential individual and cumulative effects on the STOF's water needs, water entitlements and customary usage rights; including the affects to surrounding canal systems and natural areas.

Cultural Resources

SEMINOLE TRIBE OF FLORIDA

In October 2012 the STOF - Tribal Historic Preservation Office (THPO) provided the USACE with a review of a Cultural Resource Assessment Survey (CRAS) of the Everglades Agricultural Area (EAA), A-1, Shallow Flow Equalization Basin (FEB) property located in Palm Beach County, Florida. The CRAS was performed as a requirement of the Central Everglades Planning Project and was conducted by the Florida Division of Historical Resources, Bureau of Archaeological Research under the direction of Daniel M. Seinfeld, Ph.D.

The THPO concurred with the CRAS reports assessment that there are no National Register of Historic Places eligible sites in the Area of Potential Effect. It should be stressed however that the THPO review was restricted to the 16,593 acre EAA A-1 area of potential effect ("APE") as defined for the undertaking. Possible adverse impacts to historic properties or human burials resulting from the transportation or storage of water in STA's 3/4 and 2 or other areas outside of EAA A-1 were not considered as part of the A-1 review. Clearly, from the Section 106, National Historic Preservation Act and NEPA compliance perspective, impacts occurring outside of the A-1 APE need to be addressed by the USACE in the DEIS.

The A-1 FEB is interrelated to other projects including the Central Everglades Planning Project, Compartment C, and the Everglades Restoration Transition Plan. The construction and operational decision made for the A-1 FEB will ultimately shape planning flexibility for downstream projects that could in turn impact cultural resources. Careful consideration of the broader landscape of environmental restoration projects during the A-1 FEB NEPA process is required to address the potential downstream impacts and allow for full and global consideration of cultural resources. However, the current DEIS does not discuss downstream impacts at all. It is therefore necessary for the USACE to revise the DEIS to include an evaluation of potential downstream impacts; including but not limited to potential implications/impacts related to: (1) the Compartment C Memorandum of Agreement protecting burial resources within Compartment C; (2) the Everglades Restoration Transition Plan Human Remains Policy and Programmatic Agreement; and (3) burial resources within the Central Everglades Planning Project.

The STOF appreciates your consideration of the foregoing comments, and we look forward to addressing the issues raised with the USACE.

Craig Tepper, Director
Environmental Resource Management Department
6300 Stirling Road, Suite 109
Hollywood, FL 33024

SEMINOLE TRIBE OF FLORIDA

Paul Backhouse, Tribal Historic Preservation Officer
Tribal Historic Preservation Office
34725 West Boundary Road
Clewiston, FL 33440

c: James E. Billie – Seminole Tribe of Florida
Danny Tommie – Seminole Tribe of Florida
Stan Rodimon – Seminole Tribe of Florida
Jim Shore – Seminole Tribe of Florida
Stephen Walker – Lewis, Longman & Walker, P.A.
James Charles – Lewis, Longman & Walker, P.A.
David Pugh – U.S. Army Corps of Engineers
Armando Ramirez – South Florida Water Management District
File

DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMORANDUM

TO: **Joe Lurix, Air/Waste/WF Program Administrator**
FROM: **William Rueckert, Environmental Manager, Waste Compliance Assistance & Enforcement Section** WAR
DATE: **April 4, 2013**
SUBJECT: **Phase II Environmental Site Assessment, A-1 Flow Equalization Basin, Palm Beach County; Site No. COM_157258 (Talisman), Tract Numbers: D7100-029; -104; 49100-017; Site No. COM_78220 (Woerner), Tract No. D7100-039; Site No. COM_168656 (Okeelanta), Tract No. 49100-020; Site No. COM_309403 (Okeelanta), Tract No. D7100-105; FDEP Tract No. D7100-149; and Weinlein Tract No. D7100-141.**

As requested by the Department's Office of Ecosystem Projects in Tallahassee, I have reviewed the document prepared for the South Florida Water Management District (District) by Professional Service Industries, Inc. (PSI) dated March 25, 2013 (received April 1, 2013) *Phase II Environmental Site Assessment, A-1 Flow Equalization Basin (Report), Palm Beach County, Florida.* The Department's review was performed following the "Protocol for Assessment, Remediation and Post Remediation Monitoring for Environmental Contaminants on Everglades Restoration Projects" known as the White Paper. The Waste Compliance Assistance & Enforcement Section has the following comments:

1. Based on the information and representations as presented, this Report adequately addresses the concerns of the Department's Waste Compliance Assistance & Enforcement Section with further discussion below. Therefore, the property addressed in this Report should be capable of being utilized for the intended end use as a flow equalization basin.

2. Start Up Operations - the Department concurs that during the start up operation a one-time surface water sampling event should be performed for Chromium. This sampling event should be performed at the 30- or 60-day period from inundation. **In addition,** after one year of operations, an additional surface water sampling event should be performed.

3. As presented in Section 5.1, Conclusions, arsenic concentrations should not represent a human health risk with its intended end use as long as the soils are managed on-site and not disposed off-site at an uncontrolled location.

4. As presented in Section 5.2 of the Report, the stockpiled toxaphene containing soils should be relocated outside of the inundated area and covered with at least one-foot of non-contaminated soil plus stabilized with a cover material such as grass / sod.

If you have any questions, feel free to contact William Rueckert at (561) 681-6679 or at William.Rueckert@dep.state.fl.us.

cc: (RPPS_Comp@dep.state.fl.us)

130266

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

April 17, 2013

Robert Kukleski
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

Dear Mr. Kukleski:

The U.S. Fish and Wildlife Service (Service) has reviewed the document entitled "Phase II Environmental Site Assessment for the A-1 Flow Equalization Basin Project, Former Talisman Property Tract 100-104, Palm Beach County," prepared by Professional Service Industries, Incorporated (PSI). This report summarizes sampling results for the approximately 6,070 acre Talisman property.

Previous due diligence assessments were performed on the A-1 Flow Equalization Basin (FEB) parcels prior to the creation of the current "Protocol for Assessment, Remediation, and Post-Remediation, Monitoring for Environmental Contaminants on Everglades Restoration Projects", therefore a reduced sampling density of 10 percent was agreed to prior to the current assessment of previously cultivated areas on the Talisman property. All point source concerns within the A-1 FEB were previously assessed and remediated as necessary. A total of 15, 40 acre grids were initially sampled. Soils in approximately 3,725 acres of the Talisman property were previously scraped. To better represent copper concentrations in undisturbed areas, six additional composite soil samples were collected. Analytical results were compared to the Florida Department of Environmental Protection Sediment Quality Assessment Guidelines (SQAG) and the Florida Administrative Code Soil Cleanup Target Levels (SCTL).

Results

Barium concentrations (47 to 110 mg/kg) exceeded the SQAG threshold effect concentration (20 mg/kg) in all of the samples and the SQAG probable effect concentration (60 mg/kg) in all but four of the samples. Copper was detected at concentrations that exceeded the recommended interim screening level for protection of the Everglade snail kite (*Rostrhamus sociabilis plumbeus*) (85 mg/kg) in approximately 30 percent of the samples collected from undisturbed soils. None of the samples from areas where the soils were scraped exceeded 85 mg/kg copper. Chromium, mercury, silver, and selenium exceeded the SCTL for leaching to surface water in several of the samples. No pesticides or herbicides were detected at concentrations exceeding regulatory criteria, with the exception of toxaphene at the previously assessed Woerner Farm 3 property. The current assessment reports that all of the Woerner Farm 3 property within the A-1 FEB footprint has been scraped to remove the toxaphene contamination.

While copper concentrations within the A-1 FEB did show some exceedances above the recommended interim screening level, they are predicted to be limited to less than 6 percent of the total project area. In addition, the total organic carbon (TOC) content of the soils at the proposed A-1 FEB are high (20-50 percent) and will act to decrease the bioavailability of copper. The recommended interim screening level was generally established for sandy soils with roughly 1 percent TOC. To verify that copper does not present a risk to snail kites, PSI recommended a sampling program at the start-up of the A-1 FEB to monitor copper concentrations in surface water, periphyton, and any apple snails that may establish onsite. To address the exceedances of chromium, mercury, silver, and selenium above the SCTL for leaching to surface water PSI recommended sampling surface water after start-up operations at the A-1 FEB.

Summary and Recommendations

After reviewing the analytical data, the Service concurs that the detected metal concentrations are unlikely to pose risk to Service trust resources at the proposed A-1 FEB. We agree that the proposed monitoring for copper is necessary to verify predictions of reduced copper bioavailability due to the high TOC. While the detected levels of barium could potentially impact the benthic community, it is unlikely that they would pose risk to federally listed species.

Based on the information provided in the report, it appears that there is no confirmation of full remediation of toxaphene from the project footprint. It is unclear what toxaphene concentrations remain in the soils at the Woerner Farm 3 property. In order to verify that all identified toxaphene contamination was adequately removed from the Woerner Farm 3 property, we request documentation on the vertical extent of toxaphene contamination and the depth of soil scraping that was performed. If these records are not available, we recommend confirmatory sampling. We concur that a soil management plan should be developed and followed to ensure proper handling of toxaphene contaminated soils that remain within the A-1 FEB footprint.

Thank you for the opportunity to provide comments regarding the assessment in the A-1 FEB project area. If you have any questions, please contact Emily Bauer at 772-469-4335.

Sincerely yours,

for Larry Williams
Field Supervisor
South Florida Ecological Services Office

cc: electronic only
Corps, West Palm Beach, Florida (Tori White)
Service, Vero Beach, Florida (Sharon Kocis, Steve Mortellaro)
PSI, Tampa, Florida (Stephen Long)

TABLE J-1-: A1 SHALLOW FEB DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS AND RESPONSE MATRIX

Letter	Issue Area	Comment	United States Army Corps of Engineers (USACE) Response
State Historic Preservation Officer (SHPO), Division of Historical Resources	Historic and Cultural Resources	SHPO's review of the Florida Master Site File indicated that because of the nature of the project it is unlikely that any historic or archaeological resources will be adversely impacted by the proposed project	Comment noted
South Florida Water Management District (SFWMD)	Wetlands, designs, mitigation	The wetland impact acreages were updated to reflect 90% designs. Wetland acreages changed between the draft and final to account for the 90% designs and to incorporate a 30:1 slope to portions of the interior levee. The sloped interior levee allows wildlife to vacate the Flow Equalization Basin (FEB) when water levels rise. The mitigation plan was updated to reflect comments from United States Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), and the USACE.	Edits have been incorporated in the Final EIS
Florida Panther Conservation Bank	Endangered Species	Commented that the project would adversely affect the Florida panther and would remove over 23 square miles for foraging area for a significant portion of the year. Commenter requested that the SFWMD provide habitat mitigation.	The USACE is in consultation with the USFWS for the effects on federally listed threatened or endangered species, including the Florida panther. Through our consultation process, the USFWS will determine the appropriate habitat mitigation, if required.
U.S. Environmental Protection Agency (EPA)	General	EPA supports the recommendations in the DEIS and the preferred alternative. EPA strongly supports the expedited permitting and construction of the A1 FEB	Comment noted
EPA	Wetlands	EPA recommends the Uniform Mitigation Assessment Method (UMAM) risk factor for the prior existing exotic dominated wetlands (203 acres); exotic dominated wetlands (10,500 acres); canals and ditches (113 acres) and upland roads and berms (1,2145 acres) be increased to 1.5, 1.5, 1.75, and 1.75 respectively.	The USACE agrees that the risk factor should be adjusted. The revised UMAM scores have been incorporated in Chapter 5.
EPA	Impacted Species	In Section 4.8.1.2.2, EPA recommends the USACE either mention the species of impacted nesting birds or reference it	The USACE edited the text to reference State-listed wading birds that potentially

		if previously mentioned in the DEIS.	nest on the ground.
EPA	Environmental Justice /Tribal	In Section 4.17, EPA recommends that the USACE consider identifying environmental justice communities, better describe these environmental justice communities and pictorially illustrate any environmental justice communities located near the project.	The USACE updated Section 4.17 to specify South Bay and Belle Glades as environmental justice communities in the EAA and included a map was included that shows the location of the cities in relation to the project site (which is 13 and 14 miles, respectively).
EPA	Environmental Justice /Tribal	The DEIS is not clear whether the USACE has actively engaged both the Seminole Tribe and the Miccosukee Tribe of Indians of Florida in meaningful consultation.	The EIS will clarify the consultation process in Chapter 7 of the final EIS and include the consultation letters in the Appendix J.
Mr. Quackenbos	Wetlands	Agrees that the loss of 296 acres of wetlands is offset by the enhancement of 15,000 acres. Well organized document, well written, great art work and maps.	Comment noted.
Mr. Quackenbos	Editorial	Rounding numbers to two places would be enough for highly variable natural systems. Suggested using parts per billion (ppb) consistently in document rather than interchanging ppb and ug/L.	The USACE rounded the decimals to the tenth place for acreages and the hundredth place for all other numbers. Parts per billion will be used consistently.
Everglades Foundation	General	The Everglades Foundation supports Alternative 2, the shallow FEB and is supportive to expedite the construction of the project.	Comment noted.
Everglades Foundation	Restoration Strategy	Recognizes differences in the *Restoration Strategies Regional Water Quality Plan* and Appendix E of the EIS. The EIS did not include treatment of water supply releases from Lake Okeechobee while the Restoration Strategies did treat water supply releases.	The Shallow FEB is not intended to treat water supply releases from Lake Okeechobee. The approach taken in the original Restoration Strategy Plan has been updated to be consistent with the existing Everglades Forever Act and National Pollutant Discharge Elimination System watershed permits for the Everglades STAs. Additional information on the phosphorus uptake assumptions for the four alternatives is provided in the DMSTA Model Documentation Report located in Appendix E. Information on simulated phosphorous uptake for the alternatives is provided throughout Chapter 4.
Everglades Foundation	Restoration Strategy	The Restoration Strategies assumed the FEB would uptake phosphorus while it was not clear in the EIS in comparison between the shallow FEB, STA and deep FEB alternatives	Chapter 4, Table 4-11 shows the effectiveness of each alternative in removing phosphorus on the project site. The STA is most effective in removing

			phosphorus, while the Deep FEB is the least effective on the project site.
Everglades Foundation	Restoration Strategy	Recognized the design and operations of the Restoration Strategy has changed and will continue to change.	Comment noted
Florida State Clearinghouse – Florida Department of Environmental Protection (FDEP)	Settlement Agreement and Consent Decree	Requests that the EIS be updated to reflect that the USACE is a party to the Settlement Agreement and Consent Decree.	Changes have been made to Section 1.3.1 to describe the USACE's involvement.
Florida State Clearinghouse - FDEP	Everglades Forever Act (EFA) permit	Executive Summary incorrectly notes that state requirements that will need to be satisfied includes a CERPRA permit, and consumptive use evaluation. Update the document to state that an EFA permit will be required for construction and operation of the FEB	The USACE corrected the text in the Executive Summary to indicate the appropriate permits required from the FDEP.
Florida State Clearinghouse - FDEP	FDEP application	Make note that the FDEP is currently processing the application from the SFWMD	The USACE stated the FDEP is currently processing the application and included the FDEP application file number in the Executive Summary.
Florida State Clearinghouse – FDEP	Compensatory wetland mitigation	FDEP supports Alternative 2 and recognizes that the project will offset the wetland impacts as a result of construction. FDEP agrees with the A-1 Mitigation Proposal dated February 27, 2013.	The USACE appreciates FDEP's input in developing the UMAM scores. The FDEP's expertise has been valuable in assessing the scores, time lag, and risk.
Florida State Clearinghouse - FFWCC	State listed species	All federally and state-listed species should be taken into account when analyzing the project and its alternatives.	Section 3.8.3 has been updated to include the least tern while Section 4.8.1.2.2 has been updated to describe the species of state-listed nesting birds.
Florida State Clearinghouse - FFWCC	Wildlife survey	The FWCC requests that SFWMD comply with all construction protection measures.	The SFWMD has agreed to comply with all construction protection measures.
Florida State Clearinghouse - FFWCC	Wildlife and recreation	FFWCC provided recommendations for the incorporation of features to increase wildlife habitat and enhance future recreational opportunities	Responses will be addressed in the specific recommendations provided in the FFWCC comment letter below.
Florida State Clearinghouse – Florida Department of Agriculture and Consumer Services (FDACS)	Everglades National Park (ENP)	The A-1 FEB will reduce the volume of water delivered from the STAs to the Everglades Protection Area by an average of 37,000 acre-feet per year (EIS, Table 4-4, page 4-40) and to the Everglades National Park by an average of 20,000 acre-feet per year. This reduction in flow is the result of a trade-off between water quality and water quantity for the Everglades that the Corps is willing to accept in order to reduce the phosphorus concentration entering the Everglades	The projects associated with Restoration Strategies (including the A-1 FEB) are intended to address water quality concerns associated with existing flows to the Everglades Protection Area (EPA) and are not designed to accept additional Lake Okeechobee releases sent to the Everglades to reduce discharges to east and west coast

		Protection Area through STA-3/4 from 18 ppb to 13 ppb. (EIS, Table 4-12, page 4- 69). This is an important outcome of the project that should have been discussed in the EIS. We recommend that this reduction in flow to the Everglades be explicitly recognized in the EIS as an outcome of the Everglades Restoration Strategies and assurances be given that there will be no additional deliveries from Lake Okeechobee to compensate for this reduction in flow volumes.	estuaries. There are no plans within Restoration Strategies to compensate for the simulated reduction in average annual flow to the EPA by implementing additional deliveries from Lake Okeechobee. Table 4.5 shows that Alternatives 2, 3, and 4 result in 10,000; 14,000, and 13,000 acre-feet less water per year entering into WCA 2A while Table 4.6 shows that WCA 3A would receive 25,000; 24,000; and 28,000 acre-feet per year less water than the No Action Alternative. The reduction in flow volume is due to operating a 15,000 acre FEB, which would meet water quality standards in the EPA. Section 4.5.2.2.4 describes the effects. The simulated differences in ponding depths and hydroperiods within WCA-2A and WCA-3A (within the EPA) with the A-1 FEB project in place (as compared to the No Action Alternative) are very minor and limited to a small percentage (2 - 3%) of the EPA.
Florida State Clearinghouse - FDACS	CEPP	The A-1 FEB construction footprint occupies land originally intended for the CERP EAA Reservoir Project. This CERP project included a water supply component for agricultural use that was intended to transfer some irrigation demands away from Lake Okeechobee and provide an improved level of service for the EAA producers. ("This feature will... meet supplemental agricultural irrigation demands, and increases flood protection within the EAA.") Now the original CERP plan is being further pre-empted by the CEPP, which recommends constructing another FEB on the remaining CERP EAA Reservoir project footprint. The combination of the A-1 FEB evaluated in this EIS, and the additional FEB proposed in the CEPP constitutes a major change to the CERP both in design and performance. The A-1 FEB EIS should include a discussion acknowledging this result and indicating that steps should be taken in the CEPP process to provide some of the improvement to the CERP water supply	A new section was added in Chapter 4, Section 4.19.2 to describe the relationship of the A1 FEB as proposed by the SFWMD with the A2 FEB as proposed by CEPP. The SFWMD's proposed A1 Shallow FEB does not address agricultural water supply as the A1 Shallow FEB would not capture water currently being discharged from Lake Okeechobee to tide. The draft Project Implementation Report PIR/EIS for CEPP acknowledges prior CERP projects and addresses changes from the original CERP projects and integration to CEPP. Your comment has also been shared with the USACE' project management team for CEPP.

		level of service	
Florida State Clearinghouse	Consistency with Florida Coastal Management Program (FCMP)	The State has determined that at this stage, the proposed federal action is consistent with the FCMP. To ensure consistency with the FCMP, the concerns identified by the Florida Clearinghouse must be addressed prior to project implementation.	Comment noted.
Florida Fish and Wildlife Conservation Commission (FFWCC)	State-listed species	The Florida burrowing owl and the least tern are known to nest within the project footprint and several state-listed wading birds may be affected by the project.	Chapter 3 (Section 3.8.3) has been updated to include the least tern, and Chapter 4 (Section 4.8.1.2) has been updated to document known nesting on the project site.
FFWCC	State-listed species	FFWCC requested that the SFWMD clarify that the wildlife surveys that will be conducted prior to and during construction will include both federal and state-listed species.	The SFWMD confirmed that federal and state listed species will be monitored in the wildlife surveys.
FFWCC	State-listed species	Requested that FFWCC be notified if any burrowing owl burrows are detected during construction to avoid take of a burrowing owl.	SFWMD has agreed to notify the FFWCC if any burrowing owls are detected during construction activities.
FFWCC	State-listed species	There is an inconsistency in whether the black-necked stilt was observed on site	Chapters 3 (Section 3.8.1.2) and 4 (Section 4.8.3 and Section 4.8.4) have been updated to reflect that black necked stilts have not been observed on the project site.
FFWCC	Vegetation	Recommend that embankments be stabilized with native vegetation or geotextile material without the use of soil cement, wave run-up steps, parapets, or other vertical features.	No soil cement, wave run-up steps, parapets or other vertical features are proposed for the embankments. Rip rap will be used at select locations.
FFWCC	Habitat	Sloping littoral shelves provide zones of appropriate hydroperiod for plant diversity and habitat for fish spawning and wading bird foraging during water level manipulation. FFWCC requested the SFWMD consider the 24 recommendations for fish and wildlife contained in the CERP interagency Star Team report to help FFWCC meet its conservation goals and objectives for listed wading bird species.	The SFWMD has incorporated slopes along the internal portions of the levees in the eastern and western project site. The sloping results in a slight increase in wetland impacts, but provides environmental benefits by enabling wildlife species the ability to vacate the area.
FFWCC	Habitat	FFWCC recommends leaving existing ditches and canals and add varied contours within the footprint of the project to increase water storage, provide varied bathymetry, and provide deep water refugia.	The major east-west ditches and canals within the project footprint will not be filled. Also, a majority of the existing topographic variation that exists within the project site will not be modified, and therefore will provide varied contours

			within the project footprint.
FFWCC	Habitat	FFWCC recommended that clusters and/or individual trees remain within the project area to provide perching, nesting, and roosting structures for wildlife.	Clusters of trees and/or individual trees that may provide perching, nesting and roosting structures for wildlife, that are located outside of concentrated construction areas, will not be removed.
FFWCC	Recreation	Recommends that (1) the designs incorporate features to provide for and enhance future recreational opportunities such as installing boat ramps and using levees for hiking and biking, (2) the impoundment should be open to the public and any exclusionary fencing be reconsidered, (3) fishing and boating access be allowed in the interior canal, and (4) a recreation plan be included in the Final EIS that incorporates public facilities such as boat ramps and parking.	Once the initial flooding and optimization period is complete, the recreational plan for the project will be developed to maximize recreational opportunities compatible with the project purpose. Typical recreational activities considered are hiking, biking, wildlife viewing, hunting, and fishing. If applicable, public use activities will be incorporated using a phased approach and public access points will be configured with facilities to support recreational activities.
Seminole Tribe of Florida (STOF)	Water rights	The STOF strongly disagrees with the USACE's characterization of the Water Rights Compact. The DEIS misrepresents the water studies associated with the Compact by implying the STOF concurred that these studies quantified all of the water the STOF is entitled to receive. The STOF has repeatedly stated to the USACE that the Compact did not address water supply for sustaining tribal natural resources and customary usage rights.	Section 3.10.1 was edited to remove the reference pertaining to the STOF concurrence and added language to reflect that the Compact does not address water supply to sustain tribal natural resources and customary usage rights.
	Supplemental water	Further the STOF has repeatedly requested the USACE direct supplemental water toward the Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and its Addition lands for that purpose. The DEIS does not even mention the discussions on supplemental water supply and instead appears to erroneously imply that all of the STOF's water needs have been adequately addressed. In fact, the DEIS only provides that the USACE consulted with the STOF on impacts to wetlands, water quality, flood protection, and wildlife. This description fails to acknowledge the multiple conversations the USACE has had with the STOF concerning supplemental water supply for its native lands (undeveloped lands). In sum, the STOF's water needs have not been adequately addressed or discussed in	The statements in the EIS were not intended to imply that this project would direct the STOF's supplemental water needs. The USACE acknowledges that multiple conversations have occurred between the USACE and the STOF concerning supplemental water supply for the STOF's native lands. Because this project only treats existing water that is sent south from Lake Okeechobee, the EIS is not intended to examine allocations of new water, which would serve the purpose for the STOF's supplemental water needs.

		the DEIS.	
	Supplemental water	The STOF requests that the DEIS be revised to include the consultations regarding supplemental water supply for tribal natural resources and customary usage rights.	The USACE acknowledges that consultations regarding supplemental water supplies have occurred between with the STOF and the USACE. The Corps is aware that the STOF has consistently expressed concerns with water supply entitlements. Language was added in Section 4.10.1 concerning the STOF's requests. The section also clarifies that the A1 FEB as proposed by the SFWMD, is not proposing to change the water supply budget or will not alter the STOF's water entitlements.
	Supplemental water	Further, the DEIS should address in detail the STOF's native lands supplemental water supply needs, including a discussion of the STOF proposed alternatives to direct supplemental water to the Big Cypress Seminole Indian Reservation and Big Cypress National Preserve and its Addition lands (and NEPA assessment of the feasibility of such alternatives). Failure to include the requested discussions is a failure of the USACE's trust obligation to meaningful consult with the STOF and does not comply with the USACE's NEPA obligations.	The EIS for the A1 project states that the action alternatives will have no impact on water supply for the STOF. Therefore, alternatives to provide the STOF with supplemental water are not required by NEPA. Because the A1 project proposes to accept existing water from Lake Okeechobee, the water entitlements volume as indicated in the Compact Agreement will be evaluated. Through the Corps' federal trust responsibility, the C&SF project structures are operated and maintained to ensure the STOF's water supply entitlement is delivered, and that projects plan, design, and construction consider protection and enhancement of their water supply entitlement.
	Cumulative Impacts	The USACE should evaluate the cumulative impacts of the A-1 FEB operations in conjunction with upstream and downstream projects (existing and future). The A-1 FEB is a component of a much larger water control system requiring a more holistic NEPA assessment of upstream and downstream components along with the A-1 FEB component.	Agreed. Additional information is provided in Section 4.19 regarding cumulative impacts and the operation of the applicant's preferred alternative, the Shallow A1FEB. The proposed project would not modify any upstream or downstream projects, including the WCA regulation schedules.
	Alternatives	The STOF is concerned that the revised plan of constructing a "flow equalization basin" fails to capture significant amounts of water that will be sent to the estuaries; water that	The A-1 FEB is not designed to capture the water that would be sent to the estuaries. The CEPP project is proposing to capture

		could be used to address the STOF's water needs for natural resources and customary usage. The USACE should design an alternative that stores and makes use of the waters set to be discharged to the estuaries similar to what was originally planned.	the water that is sent to the estuaries and therefore, alternatives that store or capture those excess waters should be developed by a project that supports that purpose.
	Savings Clause	Consequently, the USACE must do a "savings clause" analysis of the A-1 FEB detailing how existing water uses and flood protection will not be impacted by the project. This includes evaluating the increased competition for water during droughts.	The savings clause in Section 601 (h) of Water Resources Development Act of 2000 (WRDA) does not apply to the Corps's permit decision regarding the A-1 FEB.
	Supplemental Water	The USACE should revise the DEIS to address how STOF water supply needs (including supplemental water supply needs) will be accounted for in A-1 FEB operations during times of drought.	The Restoration Strategies Program addressed and modeled existing flows in the EAA basin with the primary intent of improving water quality through, in relevant part, attenuation of flows from peak rainfall events. Given this primary purpose, the A-1 FEB will not affect Tribal water deliveries. Section 4.10 of the EIS describes that the modeling indicated that all of the alternatives, including the No Action Alternative indicates that 7% (2,000 acre-feet) of the total demand for supplemental irrigation water is not able to be delivered. Consistent with actual operations, the water deliveries will be met with the secondary supply source (G-409 pump station), which receives water from Lake Okeechobee, STA 3/4, STA 5/6, and Rotenberger Wildlife Management Area.
	Flow routes	The DEIS briefly details how water currently flows into the Big Cypress Seminole Indian Reservation. However, the DEIS does not clearly describe how or if the A-1 FEB operations will impact those existing flow routes and operations for its betterment or detraction. The DEIS should be revised to provide a detailed discussion of how flow routes and operations into the Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and its Addition lands will operate once the A-1 FEB is operational.	The A-1 FEB is located to the east of the Big Cypress Seminole Indian Reservation and is projected to receive inflows from Lake Okeechobee and basin runoff via G-370 on the North New River Canal and via G-372 on the Miami Canal as STA-3/4 receives those flows today. Section 4.10.2 was added to describe in more detail the water flow routes and an updated map was included.
	Cumulative Effects	This question also raises concerns with the timing and	The DEIS includes modeling analysis of the

		magnitude of water flows through the system from Lake Okeechobee to WCA 3A. The Big Cypress Seminole Indian Reservation and the Big Cypress National Preserve and Addition are downstream of the A-1 FEB. Consequently, the timing, magnitude and nature of the flows are important factors to consider in identifying and addressing potential impacts to the STOF's interests. Presumably, the A-1 FEB will be providing water to a suite of projects included in the Central Everglades Planning Project (CEPP). Therefore, the A-1 FEB is a project that is related to a broader landscape of restoration projects. The DEIS should be revised to address the potential individual and cumulative effects on the STOF's water needs, water entitlements and customary usage rights; including the affects to surrounding canal systems and natural areas.	potential of the A-1 FEB to affect the Seminole Tribe's Big Cypress Reservation. This analysis included, as a modeling "hard constraint," the Tribe's surface water entitlement for the Big Cypress Reservation. In effect, delivery of the Tribe's surface water entitlement was, therefore, afforded priority when assessment of the A-1 FEB's effect on entitlement deliveries occurred. The modeling results indicate the A-1 FEB will have no effect on the Seminole Tribe's entitlement water deliveries. Hence, the requested, additional analysis is not necessary for the particular initiative.
	Historic Properties and Cultural Resources	Possible adverse impacts to historic properties or human burials resulting from the transportation or storage of water in STAs 3/4 and 2 or other areas outside of EAA A-1 were not considered as part of the A-1 review. Clearly, from the Section 106, National Historic Preservation Act and NEPA compliance perspective, impacts occurring outside of the A-1 area of potential effect need to be addressed by the USACE in the DEIS.	Agreed. A new section was added in Section 3.9.2 and Section 4.9.2.2 to describe in more detail the effects to cultural resources in the downstream areas (STA 2, STA 3/4, WCA 2A, WCA 3A and Holey Land.
		The construction and operational decision made for the A-1 FEB will ultimately shape planning flexibility for downstream projects that could in turn impact cultural resources. Careful consideration of the broader landscape of environmental restoration projects during the A-1 FEB NEPA process is required to address the potential downstream impacts and allow for full and global consideration of cultural resources. However, the current DEIS does not discuss downstream impacts at all. It is therefore necessary for the USACE to review the DEIS to include an evaluation of potential downstream impacts; including but not limited to potential implications/impacts related to (1) the Compartment C Memorandum of Agreement protecting burial resources within Compartment C; (2) the Everglades Restoration Transition Plan Human Remains Policy and Programmatic Agreement; and (3) burial resources within the CEPP.	Language was added to Section 4.9.2.2 to describe the effects in the downstream areas (STA 2, STA 3/4, WCA 2A, WCA 3A and Holey Land. USACE is developing a survey strategy in order to better understand the effects associated with hydrologic changes on cultural resources within the CEPP area of study. This will be a multi-year effort, and, as such, the USACE is developing a Programmatic Agreement (PA) as specified under 36 CFR 800.14(b)(1)(ii), which states that a PA may be utilized "when effects on historic properties cannot be fully determined prior to approval of an undertaking." Therefore, potential impacts to cultural resources within the CEPP area of study are not

			currently known. However, it is not expected that any of the Action Alternatives would result in increased water levels within the CEPP area of study. With respect to the Everglades Restoration Transition Plan, it is also not expected that any of the Action Alternatives would result in increased water levels within the area of potential effect (APE), which includes WCA-3 and Taylor and Shark River Sloughs within the Everglades National Park. Of these areas, only WCA-3A falls within the A-1 FEB Project area of analysis. Hydrologic modeling has demonstrated that water elevations within WCA-3A would decrease slightly, resulting in no increased inundation of cultural resources in the area. Furthermore, impacts to cultural resources within the ERTP APE are regulated by an existing PA for ERTP, which accounts for natural conditions and local and Federal projects in the area. Additionally, none of the Action Alternatives are expected to have any impact to water levels within the Compartment C. Finally, it is not expected that any of the Action Alternatives are likely to significantly increase water levels at any other location potentially containing cultural resources, and, as no cultural resource sites are known to exist within the potential impoundment areas, the USACE has included that it is unlikely that any of the Action Alternatives are likely to adversely affect cultural resources.