



United States Department of the Interior



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

December 14, 2005

Colonel Robert M. Carpenter
District Engineer
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Service Log No.: 4-1-04-F-8754
Corps Application No.: SAJ-2005-53 (IP-TKW)
Date Received: October 3, 2005
Project: Everglades Agricultural Area Storage Reservoir
Applicant: South Florida Water Management District
County: Palm Beach

Dear Colonel Carpenter:

The Fish and Wildlife Service (Service) has reviewed the U.S. Army Corps of Engineers' (Corps) September 2005, draft Project Implementation Report and Environmental Impact Statement (PIR/EIS) for the Everglades Agricultural Area (EAA) Storage Reservoir Project (EAA Project), a component of the Comprehensive Everglades Restoration Plan (CERP). In addition, we have reviewed the separate effects determination letter submitted by the Corps on September 2, 2005. The Service agreed to a Corps' Planning Division request that the draft PIR/EIS serve as the biological assessment for potential effects to endangered species as a result of the project. In a letter dated October 3, 2005, the Corps' Regulatory Division advised that the draft PIR/EIS, biological assessment, and effects determination letter provided by the Planning Division will also serve as the section 7 initiation package for the EAA South Florida Water Management District's (District) Acceler8 project. Thus, this letter serves as a response for concurrence to the Corps' Planning Division, as well as the Regulatory Division providing the features are the same in both the Acceler8 and Corps designs.

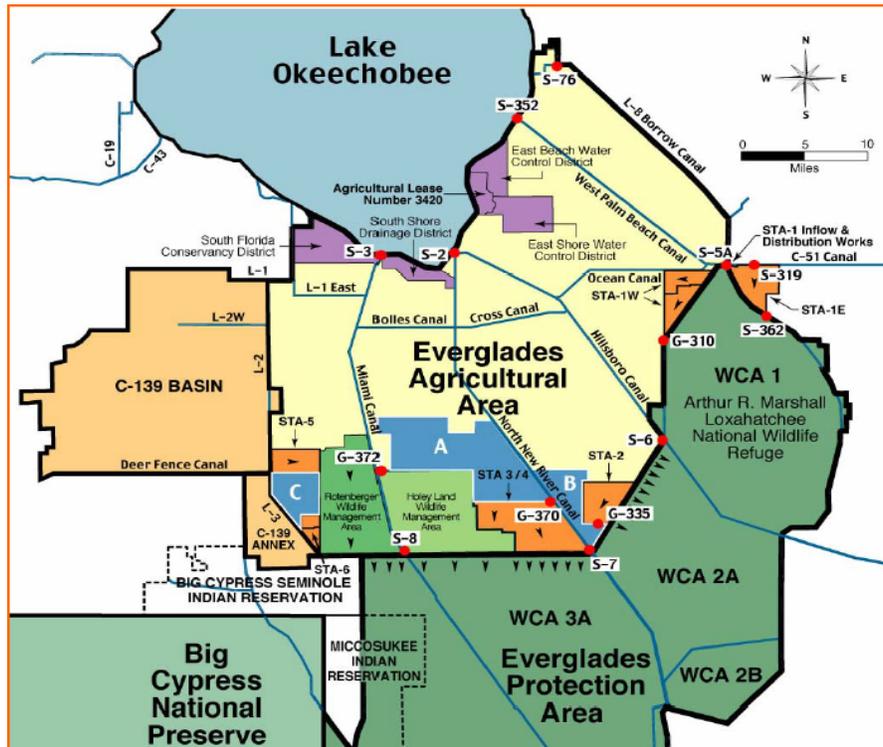
After reviewing the documents described above, the Service has determined that additional information is required to complete the initiation package and formal consultation for the endangered Florida panther (*Puma concolor coryi*). We are also awaiting completion of risk assessments for the wood stork (*Mycteria americana*) and bald eagle (*Haliaeetus leucocephalus*) before concurring on these species. This letter transmits the Service's comments and

**TAKE PRIDE[®]
IN AMERICA** 

concurrence for 9 of the 12 identified species, as well as a request for additional information for the proposed project effects on the Florida panther 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.*), and the provisions of the Fish and Wildlife Coordination Act of 1958, as amended (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*).

PROJECT DESCRIPTION

The EAA Project footprint comprises approximately 35,000 acres of land within the EAA in Palm Beach County, immediately west of U.S. Highway 27 and the North New River Canal, north of Stormwater Treatment Area (STA) 3/4, north and east of Holey Land Wildlife Management Area, and east of the Miami Canal (see map below). The site is referred to as Compartment A with current land use consisting primarily of sugar cane, with some row crop cultivation, and associated agricultural canals, levees, and ditches. The Ecological Subteam identified approximately 206 acres of wetlands within the project footprint. The Service understands that remediation and risk analyses for contaminants have been completed for all tracts of land except for Woerner Farm 3, a 1,000-acre parcel cultivated in row crops and located in the northeastern corner of Compartment A. The Service is awaiting confirmation that assessments and remediation are complete on Woerner Farm 3.



Location of the study area within the EAA. The EAA Project footprint is located within Compartment A.

According to information presented in the draft PIR/EIS, the Corps and District propose to construct an approximately 32,000-acre reservoir on Compartment A. The reservoir will consist of two cells capable of storing a total of 360,000 acre-feet of water at a maximum depth of 12 feet. Existing agricultural canals and borrow pits will provide deep water refugia for aquatic organisms within the reservoir. The current design includes an earthen embankment around the perimeter of the reservoir, approximately 23 feet in height with a 1V:3H slope. The exterior face of the embankment will be planted with grass. Along the interior face of the embankment, a wave-breaking bench overlain with concrete will extend from the reservoir ground surface to approximately 13 feet in height (slightly above maximum water level), with the remaining interior portion of the embankment covered in riprap. A seepage/habitat buffer with contoured wetland and upland areas, and a seepage canal with littoral shelf will be constructed along the eastern, northern, and western outer perimeters of the reservoir. In addition, the North New River, Miami, Bolles, and Cross Canals (approximately 48 miles) will be widened in order to increase water conveyance associated with the reservoir. General goals and objectives of the project include:

1. Reduction of the Lake Okeechobee regulatory releases to the St. Lucie and Caloosahatchee Estuaries and backpumping from the EAA into Lake Okeechobee by sending water to the reservoir;
2. Improved environmental releases through the storage of water and release to the Everglades during the dry season;
3. Flow equalization and optimization of treatment performance of STAs by capturing peak storm event discharges within the reservoir for slow release to the STAs; and
4. Improved regional water supply for the agricultural community currently served by the EAA canals and other areas served by Lake Okeechobee.

THREATENED AND ENDANGERED SPECIES

The Corps has determined that the project will have “no effect” for the endangered leatherback (*Dermochelys coriacea*) and hawksbill (*Eretmochelys imbricata imbricata*) sea turtles, the threatened green (*Chelonia mydas*) and loggerhead sea turtles (*Caretta caretta*), and the threatened Audubon’s crested caracara (*Polyborus plancus audubonii*). The Corps has determined that the project “may affect but is not likely to adversely affect” the endangered West Indian manatee (*Trichechus manatus*), Everglade snail kite (*Rostrhamus sociabilis*), wood stork, and Okeechobee gourd (*Cucurbita okeechobeensis*), as well as the threatened bald eagle and Eastern indigo snake (*Drymarchon corais couperi*). However, the Corps has determine that the project “may adversely affect” the endangered Florida panther and has requested that the Service initiate formal consultation for the panther.

The Service has reviewed the information available in the draft PIR/EIS and other correspondence from the Corps, as well as information in our Geographic Information System (GIS) database for recorded locations and information on federally listed threatened and endangered species in the project vicinity. The GIS database is a compilation of data received from several sources. The Service has not conducted a site inspection to verify species occurrence or validate the GIS results. We also referred to a Service letter, dated January 2, 2003, where we concurred with the Corps' list of federally listed species potentially affected by the EAA Project, and referred to subsequent informal consultation coordination.

Leatherback, Hawksbill, Green, and Loggerhead Sea Turtles

Sea turtle nesting grounds on the beaches associated with the St. Lucie and Caloosahatchee Estuaries are under the jurisdiction of the Service while the aquatic environment is under the jurisdiction of the National Marine Fisheries Service (NOAA Fisheries). In the draft PIR/EIS, the Corps has indicated an expected improvement in the overall health of the aquatic habitat in the estuaries as a result of the EAA Project. Therefore, the Corps has determined and notified NOAA Fisheries that the EAA Project "may affect, but is not likely to adversely affect" the sea turtles in their aquatic habitat. The Corps should continue to consult with NOAA Fisheries for concurrence on this determination.

As tidal influences of the project are not expected to negatively impact nesting beaches within the estuaries, and based on other available information and analyses, the Corps has determined the EAA Project Tentatively Selected Plan (TSP) will have "no effect" for the leatherback, hawksbill, green, and loggerhead sea turtles on their nesting grounds. The Service concurs with the Corps' determination.

Audubon's Crested Caracara

The Audubon's crested caracara is a resident, diurnal, non-migratory raptor that occurs in Florida and historically was a common resident from northern Brevard County south to St. Lucie and Hendry Counties. Today, the region of greatest abundance for the caracara is a five-county area located north and west of Lake Okeechobee. The preferred native habitat is dry or wet prairie with scattered cabbage palms (*Sabal palmetto*) that provide nesting opportunities, although improved and unimproved pastures are also highly utilized (Service 1999).

The EAA Project footprint does not contain the preferred native habitat of the threatened caracara and there are no known nest sites located within, or in close proximity to, the area. Therefore, caracaras are generally not expected within the project footprint although individuals could potentially pass through and/or feed. The Corps has indicated in the draft PIR/EIS that the Service will be consulted in the event any individuals or nests are encountered during construction in order to ensure caracaras are not affected by the proposed project.

Based on available information, analyses, and planned notification of the Service in the event caracaras are encountered, the Corps has determined the EAA Project TSP will have “no effect” on the caracara. The Service concurs with this determination.

West Indian Manatee

The West Indian manatee is a large, aquatic mammal that migrates along the Florida coast through fresh, brackish, and marine waters, and exhibits a seasonal distribution based on water temperatures. Manatees are currently able to access canals within the EAA including those associated with Compartment A and the three canals slated for expansion. Manatees are also found in other aquatic areas that may be affected by the EAA Project, such as Lake Okeechobee and the St. Lucie and Caloosahatchee Estuaries. Of all areas within south Florida surveyed by the CERP Interagency Manatee Task Force (Manatee Task Force), the highest number of structures and documented manatee rescues, mortalities, and other incidents occurs within the EAA.

The Corps has indicated in the draft PIR/EIS that the project will implement conservation measures and environmental commitments for the manatee including the *Standard Manatee Construction Conditions* (Fish and Wildlife Conservation Commission [FWC] 2001). The following protocols developed by the Manatee Task Force to minimize danger to manatees during construction activities associated with CERP (Service and FWC 2004) will also be implemented: (1) Protocols to Minimize/Avoid Entrapment at structures; (2) Protocols for Existing and New Culverts based on the size of culverts; (3) Manatee Blasting Protocol when explosives are required; and (4) Ground Observer Protocols (Corps and District 2005). Although the Aerial Observer Protocols will not be included, the Corps has agreed to ensure that observations performed on ground and by boat will be conducted near the site. In addition, intake canals and structures will include an aluminum grate from the bottom of the structure to approximately 1 foot above high water, with 8 inches of bar spacing. The features may be designed for temporary removal in the event of a water emergency.

The Corps recognizes that in the event, barriers are placed at the primary manatee access points from Lake Okeechobee to the EAA canals (Structures 351, 352, and 354) prior to construction, adverse effects to manatees in the EAA will be minimized, and observer protocols and barriers at individual structures of the EAA Project will be unnecessary.

Based on available information, analyses, and the implementation of conservation measures described above, the Corps has determined the EAA Project TSP “may affect, but is not likely to adversely affect” the West Indian manatee. The Service concurs with this determination.

Everglade Snail Kite

The Everglade snail kite is a medium sized raptor and a food specialist that feeds almost entirely on apple snails (*Pomacea paludosa*) which are found in palustrine emergent, long hydroperiod wetlands (Service 1999). During field surveys conducted by the Ecological Subteam,

appropriate habitat for apple snails and snail kites was not observed within the current wetlands in Compartment A and associated canals, and is not expected within the EAA Project reservoir, seepage/habitat buffer, or littoral shelves along the seepage canal. However, designated critical habitat for the snail kite exists in Lake Okeechobee and portions of the Everglades Protection Area (EPA) downstream (Service 1999). Preliminary hydrological modeling for the EAA Project as presented in the draft PIR/EIS indicates improved ecological conditions for Lake Okeechobee and improved apple snail habitat in portions of the EPA as a result of improved water stage conditions.

Based on available information and analyses, including the preliminary Lake Okeechobee hydrological analyses, the Corps has determined the EAA Project TSP “may affect, but is not likely to adversely affect” the Everglade snail kite. The Service concurs with this determination. In the event subsequent EAA Project hydrological modeling indicates negative impacts to snail kite critical habitat within Lake Okeechobee and/or the EPA, reinitiation of consultation for the kite may be necessary in accordance with section 7 of the ESA.

Wood Stork and Bald Eagle

The wood stork is a long-legged wading bird that typically forages in freshwater marshes, ponds, ditches, tidal creeks and pools, impoundments, pine/cypress depressions, and swamp sloughs (Service 1999). The wood stork has been documented in EAA wetlands such as those found in the 206 acres of wetlands in Compartment A, in temporarily flooded fields, in associated agricultural canals and ditches, and along primary canals such as the three slated for expansion in the EAA Project. Replacement of wetlands and temporarily flooded fields with a deep water aquatic habitat may reduce foraging opportunities for the wood stork in Compartment A. The inclusion of the seepage/habitat buffer and seepage canal littoral shelves may partially offset a portion of this loss. In addition, during regional dry events, stork foraging opportunities may increase in the area due to lower reservoir water levels and the presence of deep water refugia. According to the Service’s GIS database, the proposed EAA Project reservoir footprint does not fall within the 18.6-mile core foraging area of any known wood stork colonies. Wood stork nesting colonies have been documented adjacent to Lake Okeechobee and downstream in the EPA. Preliminary hydrological modeling for the EAA Project as presented in the draft PIR/EIS indicates improved ecological conditions for Lake Okeechobee. In the event subsequent EAA Project hydrological modeling becomes available, the Ecological Subteam will review the information for potential impacts to wood stork nesting colonies associated with Lake Okeechobee. In addition, although storks may forage within the St. Lucie and Caloosahatchee Estuaries, changes in tidal influences as a result of the EAA Project are not expected to negatively impact stork foraging activities.

The bald eagle is considered common and known to breed throughout the State. Bald eagle distribution is influenced by the availability of suitable nest and perch sites near large, open bodies of water, typically with high amounts of water-to-land edge (Service 1999). As eagles feed primarily on fish and water-dependent birds, construction of the large aquatic reservoir could potentially increase bald eagle foraging habitat. The upland portion of the seepage/habitat

buffer may provide roosting and/or nesting areas for bald eagles that may come to feed on fish and other aquatic food sources within the reservoir. Although eagles could potentially be encountered during construction of the EAA Project, no eagle nests have been documented in Compartment A or along the canal areas slated for expansion. The nearest documented bald eagle nest is in STA 2 located east of the North New River Canal and adjacent to the southeastern edge of Compartment B (see map). The nest is approximately 3.5 miles from the EAA Project footprint and although bald eagles were seen in the vicinity, the nest was not active in the 2004 and 2005 season (Christy Combs, District, personal communication 2005). Hurricane Wilma destroyed the nest on October 24, 2005. However, as District staff have recently observed a pair of bald eagles near the former nest site, nesting activity may continue. As the EAA Project footprint is outside of the primary and secondary management zones for the bald eagle nest site (Service 1987), negative impacts related to the EAA Project are not expected. Bald eagle nests have been documented in close proximity to Lake Okeechobee. However, due to the location and nature of nest sites, negative impacts to eagle nesting and foraging activities associated with Lake Okeechobee are not expected as a result of the EAA project. In addition, although eagles may forage within the St. Lucie and Caloosahatchee Estuaries, changes in tidal influences as a result of the EAA Project are not expected to negatively impact foraging activities.

Drydowns within the reservoir could concentrate and improve prey availability for wood storks and bald eagles. However, of continuing concern is the potential for drying and subsequent rehydration of the reservoir resulting in potential remobilization of residual pesticides and/or contaminants into the water column. Potentially remobilized contaminants such as methylmercury and residual pesticides such as toxaphene could be ingested by prey species or by storks and eagles directly while feeding, thus negatively impacting the listed species.

The Corps has indicated in the draft PIR/EIS (Corps and District 2005) that the EAA Project will implement conservation measures and environmental commitments for the wood stork and bald eagle including: (1) minimizing complete drydown of the reservoir cells to the extent practicable in order to minimize potential remobilization of contaminants; (2) implementing a water quality monitoring program to include assessment of mercury and other persistent contaminants within the reservoir water column, sediment, and/or prey fish species; (3) implementing the *Habitat Guidelines for the Wood stork in the Southeast Region* (Ogden 1990) and *Habitat Management Guidelines for the Bald Eagle in the Southeast Region* (Service 1987); (4) educating contractor personnel on identification and precautionary measures for the wood stork and bald eagle; and (5) notification of the Service upon observation of any stork or eagle nesting activity, or location of dead, injured, or sick individuals.

Based on available information, analyses, and the above conservation measures, the Corps has determined that the EAA Project TSP “may affect, but is not likely to adversely affect” the wood stork and bald eagle.

The results of risk assessments and contaminant remediation for the Woerner Farm 3 property in the northeastern corner of Compartment A are presently being reviewed by the Service's Environmental Contaminants Program. Upon completion of the review, the Service will complete and forward our assessment of the Corps' effects determination for the wood stork and bald eagle.

Eastern Indigo Snake

Habitat for the eastern indigo snake includes primarily drier areas such as pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammock, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Although the snake may currently be present within Compartment A, habitat may be temporary due to farming practices and disturbances. The snake may also be present along the edges of canals slated for expansion. Although the indigo snake is present within the EPA and in areas surrounding Lake Okeechobee, negative impacts to the snake in these natural areas are not expected as a result of the EAA Project.

The Corps has indicated in the draft PIR/EIS that the EAA Project will implement the *Standard Protection Measures for the Eastern Indigo Snake* (Service 2002) during construction activities. In addition, as the potential for mortality of individual indigo snakes during initial flooding of the reservoir exists, the Corps will initially flood the reservoir at a rate of 0.5 inch per day until a depth of 6 inches is attained in order to allow snakes to vacate the area.

Based on available information, analyses, and the above conservation measures, the Corps has determined the EAA Project TSP "may affect, but is not likely to adversely affect" the eastern indigo snake. The Service concurs with the Corps' determination.

Okeechobee Gourd

The Okeechobee gourd is a vine that was historically common in pond apple (*Annona glabra*) forests immediately south of Lake Okeechobee (Service 1999). At least 95 percent of the habitat has been eliminated primarily due to conversion of the pond apple habitat to agriculture and changes to the water regulation schedule in Lake Okeechobee. Although the Okeechobee gourd is not located within the project footprint, it occurs along the southern shoreline of Lake Okeechobee and may be negatively impacted by extended periods of high water. According to the draft PIR/EIS, preliminary hydrological modeling for the EAA Project indicates improved ecological conditions for Lake Okeechobee and therefore potential effects to the Okeechobee gourd are expected to be beneficial.

Based on available information and analyses, including the preliminary Lake Okeechobee hydrological analyses presented in the draft PIR/EIS, the Corps has determined the EAA Project TSP "may affect, but is not likely to adversely affect" the Okeechobee gourd. The Service concurs with this determination. In the event that subsequent EAA Project hydrological

modeling for Lake Okeechobee indicates negative impacts to Okeechobee gourd habitat, reinitiation of consultation for the gourd may be necessary in accordance with section 7 of the ESA.

Florida Panther

The Florida panther prefers native upland forests over the wetlands and disturbed habitats types such as those found in Compartment A (Service 1999). Although the core population is currently located southwest of the EAA Project footprint, panthers range throughout central and southern Florida, including the EAA. The draft PIR/EIS indicates: “There is a loss of potential ranging, resting, and foraging habitat for the panther as a result of converting wetland, agricultural, and terrestrial areas in Compartment A to an aquatic system” (Corps and District 2005). In the September 2, 2005, letter, the Corps determined that the EAA Project TSP “may adversely affect” the Florida panther and requested the Service prepare a biological opinion.

Additional information not included in the draft PIR/EIS is needed to initiate formal consultation for the Florida panther in accordance with 50 CFR 402.14. Areas within the Primary, Secondary, Dispersal, Other, and Expansion Area Zones in the CERP Landscape Level Project Planning./Siting Map for Panther Conservation (Panther Conservation Area) (Service and FWC 2004) should be used to complete analyses for information needs. In addition, the Service will work with your staff to ensure data is compiled in appropriate formats, and recommends information be forwarded to the Service as it becomes available. Information that should be included in a complete formal consultation initiation package for the Florida panther was initially transmitted via email on September 8, 2005, and is further outlined in the enclosure (Request for Additional Information Regarding the Florida Panther).

FISH AND WILDLIFE RESOURCES

Although abundant wetland habitat has been replaced by agriculture within Compartment A, the creation of ditches, canals, and the flooding of fallow agricultural fields during the rainy season provide some habitat for fish and other aquatic wildlife. The agricultural lands also provide temporary terrestrial habitat, although human disturbance is frequent due to farming practices. Species lists of fish and wildlife were collected from various literature sources and are presented in the EAA Project Environmental Existing Conditions report (Service 2003). In addition, fish and wildlife species were observed in Compartment A during field surveys conducted by the EAA Project Ecological Subteam. Fish and wildlife were identified through direct observations or the presence of sign such as tracks, scat, burrows, or exoskeletons within the wetlands and surrounding agricultural area.

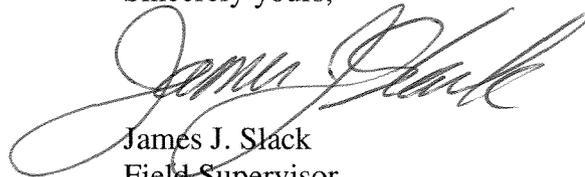
In the draft PIR/EIS, the Corps responded to Service recommendations provided in the draft FWCA report for non-listed fish and wildlife. According to the draft PIR/EIS (Corps and District 2005), Service recommendations that will be implemented include: (1) compliance with the Migratory Bird Treaty Act by not allowing construction activities to disturb active nests during the nesting season; (2) consulting the Service in the event wading bird nests are observed

during construction; (3) completing a survey for burrowing owls (*Athene cuniculari*) prior to construction activities; (4) consulting with the Service regarding design of structures to reduce impingement of aquatic wildlife; and (5) in addition to the 0.5 inch per day initial filling of the reservoir to allow indigo snakes to vacate the area, the Corps will initially fill the reservoir at a rate of 1 inch per day from the 6-inch to 12-inch water depth to allow additional time for other terrestrial wildlife to vacate the area.

As described above for wood storks and bald eagles, the results of risk assessments for the Woerner Farm 3 property are presently being reviewed by the Service's Environmental Contaminants Program. Upon completion of the review, the Service will forward our assessment of potential impacts to other fish and wildlife resources, including wading and migratory birds.

Thank you for your support in protecting listed species and other fish and wildlife resources. To assess potential project impacts to State-listed species, we recommend contacting Yvette Alger of the FWC at 772-778-5094. We are available to meet with agency representatives to resolve outstanding resource issues associated with this project. If you have any questions, please contact Cindy Fury at 561-735-6038.

Sincerely yours,



James J. Slack
Field Supervisor
South Florida Ecological Services Office

Enclosure

cc: w/enclosure

Corps, Jacksonville, Florida (Janet Cushing, Pauline Smith)

Corps/SFRPO, West Palm Beach, Florida (Tori White)

DEP, West Palm Beach, Florida (Dianne Crigger)

District, West Palm Beach, Florida (Dave Unsell, Shawn Waldeck)

EPA, West Palm Beach, Florida

FWC, Vero Beach, Florida (Yvette Alger)

Service, Vero Beach, Florida (Sharon Fauver, Miles Meyer)

LITERATURE CITED

- Florida Fish and Wildlife Conservation Commission (FWC). 2001. Standard Manatee Construction Conditions. <<http://floridaconservation.org/psm/permit/construct.htm>>. Tallahassee, Florida.
- Ogden, J.C. 1990. Habitat management guidelines for the wood stork in the southeast region. Prepared for the U.S. Fish and Wildlife Service; Atlanta, Georgia.
- U.S. Army Corps of Engineers (Corps) and South Florida Water Management District (District). 2005. Central and Southern Florida Everglades Agricultural Area storage reservoirs, draft integrated project implementation report, environmental impact statement. U.S. Army Corps of Engineers, Jacksonville District Office; Jacksonville, Florida.
- U.S. Fish and Wildlife Service (Service). 1999. South Florida multi-species recovery plan. Atlanta, Georgia.
- U.S. Fish and Wildlife Service (Service). 2002. Standard protection measures for the eastern indigo snake. South Florida Ecological Services Office; Vero Beach, Florida.
- U.S. Fish and Wildlife Service (Service). 2003. Everglades Agricultural Area Storage Reservoir Project, Phase 1: Environmental existing conditions report. Vero Beach, Florida.
- U.S. Fish and Wildlife Service (Service). 2005. Everglades Agricultural Area Storage Reservoir Project: Draft Fish and Wildlife Coordination Act Report. Vero Beach, Florida.
- U.S. Fish and Wildlife Service (Service) and Florida Fish and Wildlife Conservation Commission (FWC). 2004. Planning aid report, Multi-species Conservation Under The Comprehensive Everglades Restoration Plan (CERP), Part 1, Initial CERP Update Footprint Analysis, Figure M-15. Vero Beach, Florida.

**Request for Additional Information
Regarding the Florida Panther for the
Everglades Agricultural Area Storage Reservoir Project**

Fish and Wildlife Service
South Florida Ecological Services Office
Vero Beach, Florida 32960

In order to complete the Florida panther formal consultation initiation package for the Everglades Agricultural Area Storage Reservoir Project (EAA Project) in accordance with 50 CFR 402.14, please provide the additional information requested below. Areas within the Primary, Secondary, Dispersal, Other, and Expansion Area Zones in the Comprehensive Everglades Restoration Plan Landscape Level Project Planning/Siting Map for Panther Conservation (Panther Conservation Area) (Fish and Wildlife Service [Service] and Fish and Wildlife Conservation Commission [FWC] 2004) should be used to complete analyses for the list of information needs.

Within the EAA Project footprint, provide:

1. A table and digital shape files of pre- and post-EAA Project land use or vegetation type acreages (see the following table). Calculate percent exotics, as applicable, for each project area and provide the method used to calculate exotic cover as well as the margin of error. Include the percent exotic cover in the table. Provide a digital photographic file of the EAA Project area. Provide pre- and post-project acres impacted or preserved by the EAA Project for each of the following project areas:
 - a. Cell 1 (Acceler8 cell) footprint;
 - b. Cell 2 projected footprint;
 - c. the seepage/habitat buffer;
 - d. the seepage canal;
 - e. pump stations and/or other structures; and
 - f. canal expansion along the North New River, Bolles, and Cross Canals.

Acreages for Cell 1, Cell 2, etc. (a through f) should be consistent between the Corps and the Acceler8 designs and reflect wetland acres and habitats identified by the Ecological Subteam (see the following table). Land use and vegetation type can be classified using the Florida Land Use, Cover and Forms Classification System (FLUCCS) or land cover data such as that used by the Corps in the draft Project Implementation Report/Environmental Impact Statement (PIR/EIS) and should fit into the table categories for each project component.

2. A table of pre- and post-project panther habitat unit calculations for each project component in Item 1 (a through f) by land use or vegetation type in the following table.

The table below lists the land use and vegetation type for reporting pre-and post-EAA Project acreages. Pre-and post-project analysis recommendations for vegetation types are included.

Land Use or Vegetation Type	Service Analysis Recommendations	
	Pre-project (including Ecological Subteam Wetland Rapid Assessment)	Post-project
Xeric oak scrub		Seepage/habitat buffer uplands planted with trees
Hardwood forest		
Freshwater marsh	Cell 1= 9 acres; Cell 2=14 acres (from Wetland Rapid Assessment)	seepage/habitat buffer wetland strip
Bottomland hardwood		
Bay swamp		
Hardwood swamp		
Cypress swamp		
Sand pine scrub		
Sandhill		
Hardwood-pine forest		
Pine forest		
Grassland/pasture	non-road levees and berms; banks of North New River, Bolles, and Cross Canals to be expanded	grassy exterior levee face; grassy portion of seepage/habitat buffer maintenance area
Dry prairie		
Shrub swamp	Cell 1= 18 acres; Cell 2=1 acre (from Wetland Rapid Assessment)	
Shrub and brush		non-contoured portion of seepage/habitat buffer
Stormwater Treatment Area		
Crop land	agricultural lands	
Orchards/groves		
Exotic plants	Cell 1=150 acres; Cell 2=4 acres (from Wetland Rapid Assessment)	
Mangrove swamp		
Salt marsh		
Coastal strand		
Water	canals and ditches	inundated reservoir cells, canals
Urban	levee roads and other roads	roads, pump stations, concrete

Within a 25-mile radius of the project site in the Panther Conservation Area, provide:

3. Permitted projects - tables and a digital (Geographic Information System [GIS] shape) file of all projects that require:
 - a. a permit from the South Florida Water Management District (District);
 - b. a Development Order (DO) from the areas Regional Planning Council(s); and
 - c. A county land clearing permit or land use plan approval.

Separate projects in these tables by:

- i. projects that have received a permit or DO in the last year where construction has begun or been completed;
- ii. projects that have received a permit or DO, but construction has not begun; and
- iii. projects that have been applied for, but have not yet received a permit or DO.

In the tables include the location (Section, Township, and Range), the total acres, and if available, footprint acres by land use or vegetation type in the above table.

4. Non-permitted projects - A table of (a) estimated acres and (b) projects with less than 5 percent onsite wetlands that reasonably could be expected to be developed without a Federal Clean Water Act section 404 permit from the Corps. In the tables include the location (Section, Township, and Range), the total acres, and if available, footprint acres by land use or vegetation type in the above table. Estimates can be obtained by assessing each project site by FLUCCS code to determine project sites that have less than 5 percent onsite wetlands. Consider pine flatwoods (FLUCCS codes 411, 4119, 4151, 4159, and 6250) as wetlands in south Florida.
5. Isolated wetland projects - A table and a digital (GIS shape) file of projects that have been identified by the Corps as containing only isolated, non-jurisdictional wetlands. For each project in the table include the location (Section, Township, and Range), the total acres, and if available, footprint acres by land use or vegetation type in the above table.
6. Conservation lands - A table and a digital (GIS shape) file of all lands that are currently protected for conservation purposes. For each item in the table include the location (Section, Township, and Range), the total acres, and if available, footprint acres by land use or vegetation type.
7. County and State lands - A table and a digital (GIS shape) file showing both county and State land acquisition, by year, since 1999. For each item in the table include the location (Section, Township, and Range), the total acres, and if available, footprint acres by land use or vegetation type.

8. Land-use plans - A digital (GIS shape) file of (a) the county(s) future land use plan(s) and (b) future road expansions and extensions. For each project in the table include the location (Section, Township, and Range), the total acres, and if available, footprint acres by land use or vegetation type in the above table.
9. Base file - A digital (GIS shape) file of National Wetlands Inventory or FLUCCS codes showing the 25-mile radius area referenced in Item 3 overlays.
10. Panther-vehicle collisions - A table and digital (GIS shape) file showing roadways and locations of all known panther vehicular collisions and existing or proposed wildlife crossings. In the table, include:
 - a. the collisions and wildlife crossings;
 - b. the distance of each collision from the project site;
 - c. the name of roadway where the collision occurred;
 - d. the date of the collision; and
 - e. if the collision resulted in injury or death to a Florida panther.
11. A table of living radio-collared panthers with home ranges (derived from telemetry points). In the table, include month and year of panther activity.

Within the project footprint and a 5-mile radius of the project site in the Panther Conservation Area, provide:

12. A table of radio-collared panthers documented in the project footprint and in a 5-mile radius of the project site; and information pertaining to any uncollared panthers in the project footprint and in a 5-mile radius of the project site. In the table, include:
 - a. telemetry dates, arranged from most recent to oldest;
 - b. gender of radio-collared panther; and
 - c. the total number of telemetry occurrences within 5 miles of the project site.

Other Analyses, provide:

13. A discussion of panther prey (*e.g.*, hog, deer, small mammal) availability or panther prey studies conducted in the project area. Include an estimated deer-per-acre and hog-per-acre population and identify estimate method.
14. An analysis of temporary and permanent traffic changes on roadways affected by the project impact and restoration sites during both construction and operation of the project to include U.S. Highway 27, agricultural roads, construction roads, and maintenance roads.

Digital (GIS shape) files and other graphics, provide:

15. Provide all digital (GIS shape) files in a format for 8½ by 11 inch paper. In addition to digital (GIS shape) files previously requested, please provide:
 - a. an aerial photo background showing location of the project, including impact, restoration and preservation sites, with project boundaries and design;
 - b. an aerial photo background showing the project site and 25-mile action area; and
 - c. a figure showing all project feature or component locations in relation to panther Primary/Dispersal and Secondary Zones, and panther telemetry.

Information format:

Information which has been requested and provided can be presented in the form of a biological assessment and may also be presented in the format of a draft biological opinion, typical of what has most recently been released to the Corps