

## **APPENDIX D: PERTINENT CORRESPONDENCE**

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**APPENDIX D.1: U.S. FISH AND WILDLIFE  
SERVICE AND NATIONAL MARINE  
FISHERIES SERVICE CORREPONENCE**

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**D.1 U.S. Fish and Wildlife Service and National Marine Fisheries Service Correspondence**

This appendix contains pertinent correspondence related to Central Everglades Planning South (CEPP South) and the Endangered Species Act (ESA). Correspondence regarding Essential Fish Habitat is also included. A brief description of pertinent correspondence is provided below.

**Pertinent Correspondence**

- January 23, 2020: U.S. Army Corps of Engineers (Corps) Biological Assessment for CEPP South
- March 17, 2020: Corps request for concurrence on species effect determination for the Eastern Black Rail
- April 14, 2020: U.S. Fish and Wildlife Service (USFWS) request for additional information on CEPP South BA
- May 8, 2020: Corps response to April 14, 2020 request for additional information on CEPP South BA
- May 15, 2020: Notice of Availability (NOA) to National Marine Fisheries Service (NMFS) Protected Resources Division for CEPP South Environmental Assessment (EA)
- May 15, 2020: NOA to NMFS Habitat Conservation Division for CEPP South EA
- June 5, 2020: USFWS concurrence on species effect determinations for CEPP South

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DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BLVD  
JACKSONVILLE, FL 32207-8175

Planning and Policy Division  
Environmental Branch

JAN 23 2020

Mr. Larry Williams, Field Supervisor  
U.S. Fish and Wildlife Service  
1339 20<sup>th</sup> Street  
Vero Beach, FL 32960

Dear Mr. Williams:

In accordance with provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended, the U.S. Army Corps of Engineers, Jacksonville District (Corps), is hereby reinitiating consultation with the U.S. Fish and Wildlife Service (USFWS) concerning the Central Everglades Planning Project (CEPP) south components (CEPP South). Further ESA consultation on CEPP South is required by the 2014 Programmatic Biological Opinion (BO) from the USFWS. The purpose of the CEPP is to improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries (St. Lucie and Caloosahatchee), central Everglades (Water Conservation Area 3 [WCA 3] and Everglades National Park [ENP]), and Florida Bay while increasing water supply for municipal and agricultural users. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual Project Partnership Agreements (PPAs) between the Corps and the South Florida Water Management District (SFWMD). The CEPP South Validation Report confirmed project components, construction sequencing, and project dependencies as identified in the 2014 CEPP Final Project Implementation Report and Environmental Impact Statement (2014 CEPP PIR/EIS) and was approved by the Corps' South Atlantic Division on May 31, 2019. The Jacksonville District, plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. A final CEPP South BO is needed for execution of the PPA by June 2020. The signed PPA is required to advertise and award the first construction contract for CEPP South.

The full consultation history for CEPP South is included in Section 2 of the attached Biological Assessment (BA). The Corps is reinitiating consultation with the USFWS on CEPP South based on coordination in 2019 with the USFWS, in which the USFWS agreed that once the Corps completed modeling for the proposed Combined Operational Plan (COP) and selected a preliminary preferred plan, the Corps would update and resubmit the CEPP South BA. The COP will define operations for the constructed features of the Modified Water Deliveries (MWD) to ENP and C-111 South Dade Projects, and implementation of the COP is anticipated in August 2020. As such, the COP will define operations for water management infrastructure in the study area and serve as the baseline for initial water management operations in the CEPP South project area. The

COP will also provide an overall constraint regarding the volume of flows into Eastern ENP by limiting the maximum operating stage in the L-29 Canal (between S-333 and S-

334) based on the completed MWD Tamiami Trail roadway modifications. Consultation for the COP was initiated on December 11, 2019 with submittal of a BA.

Species effects determinations for all federally listed threatened and endangered species for those that fall within the CEPP South action area are listed in Table 1. The Corps reaffirms the 2018 CEPP South BA species effects determinations for the following listed species: the Florida panther (*Puma concolor coryi*), West Indian manatee (*Trichechus manatus*) and its critical habitat, the Florida bonneted bat (*Eumops floridanus*), American alligator (*Alligator mississippiensis*), American crocodile (*Crocodylus acutus*) and its critical habitat, Eastern indigo snake (*Drymarchon corais couperi*), the piping plover (*Charadrius melodus*), the red-cockaded woodpecker (*Picoides borealis*), the roseate tern (*Sterna dougallii*), the Miami blue butterfly (*Cyclargus thomasi bethunebakeri*), the Schaus swallowtail butterfly (*Heracles aristodemus ponceanus*), the Stock Island tree snail (*Orthalicus reses* (not incl. *nesodryas*)), the crenulate lead-plant (*Amorpha crenulata*), the Okeechobee gourd (*Cucurbita okeechobeensis* ssp. *Okeechobeensis*), the Big Pine partridge pea (*Chamaecrista lineata* var. *keyensis*), the Cape Sable thoroughwort (*Chromolaena frustrata*), Carters small-flowered flax (*Linum carteri* var. *carteri*), the Florida brickell-bush (*Brickellia mosieri*), the Florida bristle-fern (*Trichomanes punctatum* spp. *floridanum*), the Florida semaphore cactus (*Consolea corallicola*), and the sand flax (*Linum arenicola*). The USFWS provided concurrence on these species determinations in correspondence dated December 21, 2018.

The Corps has changed its effect determinations from the 2018 CEPP South BA for the following listed species based on new information regarding the presence of these species in the action area: the deltoid spurge (*Chamaesyce deltoidea* spp. *deltoidea*), the Garber's spurge (*Chamaesyce garberi*), the Small's milkpea (*Galactia smallii*), the tiny polygala (*Polygala smallii*), Bartram's hairstreak butterfly (*Strymon acis bartrami*), the Florida leafwing butterfly (*Anaea troglodyte floridalis*), Blodgett's silverbush (*Argythamnia blodgettii*), Everglades bully (*Sideroxylon reclinatum* spp. *Austrofloridense*), Florida pineland crabgrass (*Digitaria pauciflora*), the Florida prairie-clover (*Dalea carthagenesis floridana*), and sandmat (*Chaemaesyce deltoidea pinetorium*). Furthermore, the Corps is requesting formal consultation on the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), the Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*), and the wood stork (*Mycteria americana*), and is requesting that incidental take be provided for these species as applicable.

The Corps acknowledges the potential usage and occurrence of threatened and endangered species and/or critical habitat within the CEPP South action area. Completion of a revised Draft Project Operating Manual (DPOM) for CEPP South and supporting National Environmental Policy Act documentation is anticipated to be complete by July 2020. If the DPOM shows CEPP South will have effects to listed species or critical habitat in a manner or an extent not considered in the enclosed 2020 CEPP South BA, the Corps will reinstate ESA consultation as appropriate under 50 CFR §402.16. We request that the USFWS provide concurrence on the Corps species effect determinations in Table 1, provide a Draft BO within 90 days of receipt of this letter for Corps' review, and provide a Final BO within 135 days from receipt of this letter. Please contact Melissa Nasuti by email:

Melissa.a.nasuti@usace.army.mil or telephone 904-232-1368 regarding this consultation request.

Sincerely,

A handwritten signature in black ink, appearing to read "Angela Dunn". The signature is fluid and cursive, with the first name "Angela" being more prominent than the last name "Dunn".

Angela Dunn  
Chief, Environmental Branch

Enclosure

cc:

Mr. Donald Progulske, U.S. Fish and Wildlife Service, 1339 20<sup>th</sup> Street,  
Vero Beach, Florida 32960

Mr. Miles Meyer, U.S. Fish and Wildlife Service, 1339 20<sup>th</sup> Street,  
Vero Beach, Florida 32960

Mr. Kevin Palmer, U.S. Fish and Wildlife Service, 1339 20<sup>th</sup> Street,  
Vero Beach, Florida 32960

Table 1. Status of Federally Threatened and Endangered Species under USFWS Jurisdiction with the Potential to occur within the CEPP South Action Area and the Corps' Effects Determination (E: Endangered; T: Threatened; SA: Similarity of Appearance; CH: Critical Habitat, C: Candidate Species)

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
<b>Mammals</b>					
Florida panther	<i>Puma concolor coryi</i>	E	X		
Florida manatee	<i>Trichechus manatus latirostris</i>	E, CH	X		
Florida bonneted bat	<i>Eumops floridanus</i>	E	X		
<b>Birds</b>					
Cape Sable seaside sparrow	<i>Ammodramus maritimus mirabilis</i>	E, CH		X	
Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	E, CH		X	
Piping plover	<i>Charadrius melodus</i>	T			X
Red-cockaded woodpecker	<i>Picoides borealis</i>	E			X
Roseate tern	<i>Sterna dougallii</i>	T			X
Wood stork	<i>Mycteria americana</i>	T		X	
<b>Reptiles</b>					
American Alligator	<i>Alligator mississippiensis</i>	T, SA	X		
American crocodile	<i>Crocodylus acutus</i>	T, CH	X		
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	X		
Gopher tortoise	<i>Gopherus polyphemus</i>	C			X
<b>Invertebrates</b>					
Bartram's hairstreak butterfly	<i>Strymon acis bartrami</i>	E, CH	X		
Florida leafwing butterfly	<i>Anaea troglodyta floridalis</i>	E, CH	X		
Miami blue butterfly	<i>Cyclargus thomasi bethunebakeri</i>	E			X
Schaus swallowtail butterfly	<i>Heraclides aristodemus ponceanus</i>	E			X

Stock Island tree snail	<i>Orthalicus reses</i> (not incl. <i>nesodryas</i> )	T			X
<b>Plants</b>					
Crenulate lead plant	<i>Amorpha crenulata</i>	E			X
Deltoid spurge	<i>Chamaesyce deltoidea</i> spp. <i>deltoidea</i>	E			X
Garber's spurge	<i>Chamaesyce garberi</i>	T	X		
Okeechobee gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeenis</i>	E			X
Small's milkpea	<i>Galactia smallii</i>	E	X		
Tiny polygala	<i>Polygala smallii</i>	E	X		
Big pine partridge pea	<i>Chamaecrista lineata</i> var. <i>keyensis</i>	E			X
Blodgett's silverbush	<i>Argythamnia blodgettii</i>	T	X		
Cape Sable thoroughwort	<i>Chromolaena frustrata</i>	E, CH			X
Carter's small-flowered flax	<i>Linum carterivar. carteri</i>	E, CH			X
Everglades bully	<i>Sideroxylon reclinatum</i> spp. <i>austrofloridense</i>	T	X		
Florida brickell-bush	<i>Brickellia mosieri</i>	E, CH			X
Florida bristle fern	<i>Trichomanes punctatum</i> spp. <i>floridanum</i>	E			X
Florida pineland crabgrass	<i>Digitaria pauciflora</i>	T	X		
Florida prairie-clover	<i>Dalea carthagenesis floridana</i>	E	X		
Florida semaphore cactus	<i>Consolea corallicola</i>	E, CH			X
Pineland sandmat	<i>Chaemaesyce deltoidea pinetorium</i>	T	X		
Sand flax	<i>Linum arenicola</i>	E			X

**2020 Biological Assessment**  
**Central Everglades Planning Project (CEPP) South**

**Prepared by: U.S. Army Corps of Engineers, Jacksonville District**

**Submitted to: United States Fish and Wildlife Service, Vero Beach Ecological Services Office, Vero Beach, Florida**

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## Table of Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
<b>2</b>	<b>CONSULTATION SUMMARY .....</b>	<b>2</b>
<b>2.1</b>	<b>Consultation 2014 CEPP Final PIR/EIS .....</b>	<b>2</b>
<b>2.2</b>	<b>Consultation Summary CEPP South .....</b>	<b>3</b>
<b>3</b>	<b>STUDY AREA .....</b>	<b>5</b>
<b>4</b>	<b>CEPP SOUTH PROJECT DESCRIPTION .....</b>	<b>7</b>
<b>4.1</b>	<b>CEPP SOUTH PLAN FEATURES .....</b>	<b>7</b>
<b>4.2</b>	<b>Project Authority .....</b>	<b>19</b>
<b>4.3</b>	<b>Project Goal, Objectives, Constraints .....</b>	<b>19</b>
<b>5</b>	<b>PERFORMANCE MEASURES.....</b>	<b>20</b>
<b>6</b>	<b>DESCRIPTION OF EXISTING CONDITIONS, LISTED SPECIES AND DESIGNATED CRITICAL HABITAT.....</b>	<b>21</b>
<b>6.1</b>	<b>Affected Environment .....</b>	<b>21</b>
<b>6.2</b>	<b>Designated Critical Habitat .....</b>	<b>32</b>
<b>6.3</b>	<b>Effects Determinations .....</b>	<b>43</b>
<b>7</b>	<b>CUMULATIVE EFFECTS .....</b>	<b>91</b>
<b>8</b>	<b>CONSERVATION MEASURES.....</b>	<b>95</b>
<b>9</b>	<b>CONCLUSIONS .....</b>	<b>96</b>
<b>10</b>	<b>REFERENCES .....</b>	<b>98</b>

## List of Tables

TABLE 1.	CEPP PROJECT FEATURES BY IMPLEMENTATION PHASE .....	8
TABLE 2.	GOALS AND OBJECTIVES OF CEPP. GOALS AND OBJECTIVES FOR CERP ARE ALSO DEPICTED TO ACKNOWLEDGE THE DIRECT LINKAGE BETWEEN THE TWO PROJECTS. .20	
TABLE 3.	STATUS OF FEDERALLY THREATENED AND ENDANGERED SPECIES UNDER USFFWS' JURISDICTION WITH THE POTENTIAL TO OCCUR WITHIN THE CEPP SOUTH ACTION AREA AND THE CORPS' EFFECTS DETERMINATION (E: ENDANGERED; T: THREATENED; SA: SIMILARITY OF APPEARANCE; CH: CRITICAL HABITAT, C: CANDIDATE SPECIES) .....	28
TABLE 4.	PANTHER HABITAT IMPACTS FOR CEPP SOUTH FEATURES BASED ON PANTHER HABITAT UNIT VALUES* INCLUDING IMPLEMENTATION OF AMMP COMPONENTS.....	46
TABLE 5.	CAPE SABLE SEASIDE SPARROW BIRD COUNT AND POPULATION ESTIMATES BY YEAR AS RECORDED BY THE EVERGLADES NATIONAL PARK RANGE-WIDE SURVEY (Data Source USFWS September 18, 2019 Leadership Group Meeting) .....	60
TABLE 6.	ACREAGE OF UPLAND LOST AND UPLAND CREATION UNDER CEPP SOUTH. ....	71

TABLE 7. PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS AND PLANS AFFECTING THE ACTION AREA.....92

TABLE 8. SUMMARY OF CUMULATIVE EFFECTS.....93

**List of Figures**

FIGURE 1. MAP OF STUDY AREA .....6

FIGURE 2. CEPP RECOMMENDED PLAN SOUTHERN DISTRIBUTION AND CONVEYANCE FEATURES AND LOCATION (USACE 2014).....9

FIGURE 3. CEPP RECOMMENDED PLAN SOUTHERN DISTRIBUTION AND CONVEYANCE FEATURES AND LOCATION (USACE 2014) INCLUDING LOCATION OF COMPLETE BACKFILL OF EAST WEST AGRICULTURAL DITCH IDENTIFIED WITH THE RED CIRCLE. THE HORIZONTAL EAST WEST BLACK LINE SHOWS THE EXTENT OF BACKFILL ANTICIPATED UNDER CONTRACT 1 FOR CEPP SOUTH. ....15

FIGURE 4. LOCATION OF POTENTIAL ACTIVE MARSH IMPROVEMENT IN THE BLUE SHANTY FLOWWAY IN WCA 3B. ....16

FIGURE 5. LOCATION OF FEDERALLY THREATENED AND ENDANGERED SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE CEPP SOUTH ACTION AREA.....31

FIGURE 6. CRITICAL HABITAT FOR THE FLORIDA MANATEE .....33

FIGURE 7. CRITICAL HABITAT FOR THE CAPE SABLE SEASIDE SPARROW .....35

FIGURE 8. CRITICAL HABITAT FOR THE EVERGLADE SNAIL KITE .....37

FIGURE 9. CRITICAL HABITAT FOR THE AMERICAN CROCODILE .....39

FIGURE 10. CRITICAL HABITAT FOR BARTRAM'S HAIRSTREAK BUTTERFLY .....41

FIGURE 11. CRITICAL HABITAT FOR THE FLORIDA LEAFWING BUTTERFLY .....42

FIGURE 12. FLORIDA PANTHER ZONES IN SOUTH FLORIDA.....48

FIGURE 13. FLORIDA PANTHER TELEMETRY INFORMATION (1981-2017).....49

FIGURE 14. WEST INDIAN MANATEE CENTRAL AND SOUTH FLORIDA ACCESSIBILITY .....52

FIGURE 15. FLORIDA BONNETED BAT CONSULTATION AREA.....55

FIGURE 16. CAPE SABLE SEASIDE SPARROW SUBPOPULATIONS (A-F) AND DESIGNATED CRITICAL HABITAT UNITS (U1-U5). CSSS-AX IS ILLUSTRATED ADJACENT TO CSSS-A HIGHLIGHTED IN GREEN. ....59

## 1 INTRODUCTION

The purpose of a Biological Assessment (BA) is to evaluate the potential effects of a federal action on both listed species and those proposed for listing, including designated and proposed critical habitat, and determine whether the continued existence of any such species or habitat is likely to be adversely affected by the federal action. The BA is also used in determining whether formal consultation or a conference is necessary. See 50 CFR 402.12(a). This is achieved by:

- Reviewing the results of an on-site inspection of the area affected by the federal action to determine if listed or proposed species are present or occurs seasonally.
- Reviewing the views of recognized experts on the species at issue and relevant literature.
- Analyzing the effects of the federal action on species and habitat including consideration of cumulative effects, and the results of any related studies.
- Analyzing alternative actions considered by the federal agency for the proposed action.

In accordance with provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended, the U.S. Army Corps of Engineers, Jacksonville District (Corps) via preparation of this BA is re-initiating consultation with the U.S. Fish and Wildlife Service (USFWS) regarding the Central Everglades Planning Project (CEPP). The Corps has completed a Validation Study for the CEPP South component (CEPP South) which was approved by the South Atlantic Division on May 31, 2018. The CEPP South Validation Study confirmed project components, construction sequencing, and project dependencies as identified in the 2014 CEPP Final Project Implementation Report and Environmental Impact Statement (PIR/EIS) and Chief's Report (USACE 2014). The specific features of the CEPP Recommended Plan to be implemented in CEPP South will include conveyance features that function to deliver and re-distribute existing water from Water Conservation Area 3A (WCA 3A) to WCA 3B, Everglades National Park (ENP) and Florida Bay. Further ESA Section 7 consultation on CEPP South components is needed as required by the 2014 CEPP Chief Report and 2014 Programmatic Biological Opinion (BO) from the USFWS. The Corps has prepared a BA that identifies potential effects on listed species, including designated and proposed critical habitat, pertaining to the construction and operation of those features identified in the CEPP South Validation Study and components of the CEPP Adaptive Management and Monitoring Plan (AMMP) that are pertinent to proceed with at this time. This BA will also determine whether the continued existence of any listed species or habitat is likely to be adversely affected by the action.

The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. A final CEPP South BO is needed for execution of a Project Partnership Agreement (PPA) with the South Florida Water Management District (SFWMD) by June 2020. The signed PPA is required to award the first construction contract for CEPP South. The Corps is reinitiating consultation with the USFWS on CEPP South based on coordination in 2019, in which the USFWS agreed that once the Corps completed modeling for the proposed Combined Operational Plan (COP) and selected a preliminary preferred plan, the Corps would update and resubmit this CEPP South BA. Reference **Section 2** for further detailed information. The COP will define operations for the constructed features of the Modified Water Deliveries (MWD) to Everglades National Park (ENP) and Canal 111 (C-111) South Dade Projects. As such, COP will define operations for water management infrastructure in the study area and serve as the baseline for initial water management operations in the

CEPP South project area. Consultation for the COP was initiated on December 11, 2019 with submittal of a BA. The Corps anticipates a Record of Decision (ROD) will be completed for the COP in August of 2020.

## 2 CONSULTATION SUMMARY

### 2.1 Consultation 2014 CEPP Final PIR/EIS

Coordination with the USFWS and National Marine Fisheries Service (NMFS) on CEPP occurred during development of the 2014 CEPP Final PIR/EIS (USACE 2014). The Corps requested concurrence from the USFWS on federally listed species and critical habitat that may be present in the project area in a letter dated January 23, 2013. The USFWS provided concurrence on the species list on May 10, 2013. Formal consultation was initiated with the USFWS on August 5, 2013 with completion of a BA for CEPP. The Corps received a Request for Additional Information (RAI) from USFWS on September 4, 2013. The Corps provided a Supplemental Technical Analysis in Response to USFWS' RAI for CEPP on October 24, 2013. On December 13, 2013, the Corps changed its request from formal to early consultation. The Corps entered formal consultation with USFWS on the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), and its designated critical habitat, Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*), (CSSS) and its designated critical habitat, the wood stork (*Mycteria americana*) and eastern indigo snake (*Drymarchon corais couperi*). A Programmatic BO was received on April 9, 2014, which stated that further consultation will be needed when more specific project details are finalized during the Project Preconstruction, Engineering, and Design (PED) phase. While the 2014 Programmatic BO did not provide provisions for incidental take of these three endangered avian species (CSSS, snail kite, and wood stork), it did describe the anticipated effects based on current information. It was recognized that, upon completing ESA Section 7 consultation for each implementation phase, the Corps would undertake the agreed-to avoidance and minimization measures and implement any required terms and conditions (TCs). When the Corps is closer to constructing portions of CEPP that will affect listed species, it was recognized that the USFWS will provide separate consultation document(s) which may authorize incidental take, and provide applicable reasonable and prudent measures (RPMs) and TCs. The preliminary conclusion from the 2014 Programmatic BO stated that the proposed project is not likely to jeopardize the continued existence of the species listed above and is not likely to adversely modify critical habitat, where designated. The 2014 Programmatic BO concurred with the Corps' determination of may affect, but is not likely to adversely affect the Florida panther (*Puma concolor coryi*), West Indian manatee (*Trichechus manatus*), and its critical habitat, American alligator (*Alligator mississippiensis*), American crocodile (*Crocodylus acutus*) and its critical habitat, deltoid spurge (*Chamaesyce deltoidea ssp. deltoidea*), Garber's spurge (*Chamaesyce garberi*), Small's milkpea (*Galactia smallii*), and tiny polygala (*Polygala smallii*). Furthermore, the USFWS concurred with all the "No Effect" determinations made by the Corps in regard to the applicable threatened or endangered species that are found in the action area. These included "No Effect" determinations for the Florida bonneted bat (*Eumops floridanus*), Northern crested caracara (*Caracara cheriway*), piping plover (*Charadrius melodus*), red-cockaded woodpecker (*Picoides borealis*), roseate tern (*Sterna dougallii dougallii*), Schaus swallowtail butterfly (*Heracles aristodemus ponceanus*), Stock Island tree snail (*Orthalicus reses [not incl. nesodryas]*), Miami blue butterfly (*Cyclargus thomasi bethunebaker*), Beach jacquemonia (*Jacquemontia reclinata*), Cape Sable thoroughwort (*Chromolaena frustrata*), crenulate lead-plant (*Amorpha crenulata*), and Okeechobee gourd (*Cucurbita okeechobeensis ssp. okeechobeensis*).

At the time of the 2014 Programmatic BO, the following species were being proposed as candidates for listing: the Big Pine partridge pea (*Chamaecrista lineata var. keyensis*), Blodgett's silverbush (*Argythamnia blodgettii*), Carters small flowered flax (*Linum carteri var. carteri*), Everglades bully (*Sideroxylon reclinatum*

*ssp. austrofloridense*), Florida brickell-bush (*Brickellia mosieri*), Florida pineland crabgrass (*Digitaria pauciflora*), Florida prairie clover (*Dalea carthagensis floridana*), Florida semaphore cactus (*Consolea corallicola*), pineland sandmat (*Chaemaesyce deltoidea pinetorium*), Bartram's hairstreak butterfly (*Strymon acis bartrami*), and the Florida leafwing butterfly (*Anaea troglodyta floridalis*).

Incidental take was not provided in the 2014 Programmatic BO for the Everglade snail kite, the CSSS and the wood stork, however take is anticipated on these three species. The 2014 Programmatic BO recognized that take will be enumerated when a final BO is required for each phase of CEPP implementation. The 2014 Programmatic BO recognized that incidental take of the eastern indigo snake is likely during construction and operation of CEPP, particularly construction of the A-2 FEB and the Miami Canal backfill identified within the 2014 CEPP Recommended Plan. The amount of take includes 14,000 acres of the FEB currently in sugar cane and row crops that will become inundated and mostly unusable to indigo snakes. Up to 268 snakes could be harassed through being displaced as a result of the CEPP and up to two indigo snakes may be injured or killed (harmed).

A programmatic ESA Section 7 consultation for the Comprehensive Everglades Restoration Plan (CERP) was prepared on March 15, 2013 to evaluate potential effects of CERP on listed species and designated critical habitat under the NMFS' purview. The Corps provided a Programmatic BA for the CERP to NMFS on July 2, 2013. NMFS provided a Programmatic BO for the CERP to the Corps on December 17, 2013 that included consultation for the CEPP. The 2013 Programmatic BA concurred with the determination that CERP, including CEPP, is not likely to adversely affect any listed species or their designated critical habitat. The 2013 Programmatic BO concurred with the "No Effect" determinations made by the Corps in regard to the applicable threatened or endangered species that fell under the purview of NMFS as a result of CEPP implementation. These included "No effect" determinations for the Blue whale (*Balaenoptera musculus*), Finback whale (*Balaenoptera physalus*), Humpback whale (*Megaptera novaeangliae*), Sei whale (*Balaenoptera borealis*), Sperm whale (*Physeter microcephalus*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*) and its critical habitat, Shortnose sturgeon (*Acipenser brevirostrum*), Elkhorn coral (*Acropora palmata*) and its critical habitat, Staghorn coral (*Acropora cervicornis*) and its critical habitat and Johnsons seagrass (*Halophila johnsonii*) and its critical habitat. A may affect determination was made for the Smalltooth sawfish (*Pristia pectinata*) and its critical habitat, the Green sea turtle (*Chelonia mydas*) and its critical habitat, Hawksbille sea turtle (*Eretmochelys imbricate*) and its critical habitat, Kemp's Ridely sea turtle (*Lepidochelys kempii*), Leatherback sea turtle (*Dermochelys coriacea*) and its critical habitat, and the Loggerhead sea turtle (*Caretta caretta*). The 2013 Programmatic BO determined that the Corp's consultation responsibilities under the ESA for species under the NMFS purview was concluded, noting that consultation must be initiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

## 2.2 Consultation Summary CEPP South

The Corps recognizes per the 2014 Chief's Report that future BOs are required prior to the execution of CEPP, including CEPP South. The purpose of this BA is to evaluate the potential effects of CEPP South on both listed species and those proposed for listing, including designated and proposed critical habitat, and determine whether the continued existence of any such species or habitat is likely to be adversely affected by the federal action. On November 20, 2017, correspondence was provided to the USFWS indicating that the Corps was beginning preparation of a Validation Study for CEPP South. The Corps has consulted with the USFWS by letter dated November 20, 2017 on federally listed threatened and endangered species

that may be present in the action area. In correspondence dated December 27, 2017, the USFWS provided a revised species list for CEPP South that included changes to several plant species whose status had changed from proposed listed to listed. Correspondence was provided to the USFWS on April 18, 2018, requesting confirmation on the current species list. Confirmation was received from the USFWS. Federally threatened and endangered species that may be encountered within or adjacent to the action area include the Florida panther, Florida bonneted bat, Florida population of West Indian Manatee (Florida manatee), CSSS, Everglade snail kite, piping plover, red-cockaded woodpecker, roseate tern, wood stork, American alligator, American crocodile, Eastern indigo snake, Bartram's hairstreak butterfly, Florida leafwing butterfly, Miami blue butterfly, Schaus swallowtail butterfly, Stock Island tree snail, crenulate lead-plant, deltoid spurge, Garber's spurge, Okeechobee gourd, Small's milkpea, tiny polygala, Big Pine partridge pea, Blodgett's silverbush, Cape Sable thoroughwort, Carters small-flowered flax, Everglades bully, Florida brickell-bush, Florida bristle fern, Florida pineland crabgrass, Florida prairie clover, Florida semaphore cactus, pineland sandmat, and sand flax. In addition, the CEPP South action area contains designated critical habitat for the Florida manatee, CSSS, snail kite, American crocodile, Bartram's hairstreak butterfly, Florida leafwing butterfly, Cape Sable thoroughwort, Carter's small-flowered flax, Florida brickell-bush, and Florida semaphore cactus. Critical habitat for Bartram's hairstreak butterfly, Florida leafwing butterfly, Carter's small-flowered flax, and Florida brickell-bush was not designated at the time consultation was completed with the USFWS with receipt of the 2014 CEPP Programmatic BO.

The Corps previously prepared a BA on July 18, 2018, that identified potential effects on listed species, including designated and proposed critical habitat, pertaining only to those features identified in the CEPP South Validation Report. The USFWS provided a Draft Supplemental Programmatic BO for CEPP South on October 15, 2018 for the Corps' review. The 2018 Draft Supplemental Programmatic BO indicated that once more certainty regarding project details and implementation dates are learned, USFWS will enumerate incidental take and complete consultation on the endangered Everglade snail kite and its designated critical habitat, the endangered Cape Sable Seaside Sparrow, and its designated critical habitat, and the threatened wood stork. More specifically, during these preliminary discussions, the USFWS noted that once the Corps provides more detailed information regarding the operations of CEPP South, the USFWS will provide incidental take levels if appropriate. The Corps acknowledged the USFWS' desire for additional information prior to enumerating take and therefore deferred formal consultation on the above listed avian species. The Corps modified its prior request for formal consultation to a request for informal in correspondence dated November 30, 2018.

The Corps is reinitiating consultation with the USFWS on CEPP South based on coordination in 2019, in which the USFWS agreed that once the Corps completed modeling for the proposed COP and selected a preliminary preferred plan, the Corps would update and re-submit this CEPP South BA which would be used for preparation of the USFWS BO.

The specific features of the 2014 CEPP Recommended Plan to be implemented in CEPP South will include conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay. The Corps has prepared this BA that identifies potential effects on listed species, including designated and proposed critical habitat, pertaining to those features identified in the CEPP South Validation Report and includes adaptive management features identified within the 2014 CEPP/Final PIR/EIS Adaptive Management and Monitoring Plan to improve southerly flow conveyance in the Blue Shanty Flowway. These adaptive management features include complete backfill of approximately one and a half miles of an east-west agricultural ditch, removal of spoil mounds adjacent to the east-west agricultural ditch (re-grading to match adjacent ground surface elevations), active

vegetation management of historic sloughs encroached with sawgrass, and the placement of temporary pump(s) adjacent to the L-29 canal to improve southerly flow conveyance prior to the L-29 levee gap removal.

The Corps reaffirms the 2018 CEPP South BA species effects determinations for the following listed species: the Florida panther, West Indian manatee and its critical habitat, the Florida bonneted bat, American alligator, American crocodile and its critical habitat, Eastern indigo snake, the piping plover, the red-cockaded woodpecker, the roseate tern, the Miami blue butterfly, the Schaus swallowtail butterfly, the Stock Island tree snail, the crenulate lead-plant, the Okeechobee gourd, the Big Pine partridge pea, the Cape Sable thoroughwort, Carters small-flowered flax, the Florida brickell-bush, the Florida semaphore cactus, the Florida bristle fern, and the sand flax. The USFWS provided concurrence on these species determinations in correspondence dated December 21, 2018. The Corps has changed its effect determinations from the 2018 CEPP South BA for the following listed species based on new information regarding the presence of these species in the action area: the deltoid spurge, the Garber's spurge, the Small's milkpea, the tiny polygala, Bartram's hairstreak butterfly, the Florida leafwing butterfly, Blodgett's silverbush, Everglades bully, the Florida pineland crabgrass, the Florida prairie clover, and pineland sandmat. The updated effect determinations are detailed in **Section 6.3**.

### **3 STUDY AREA**

The study area for CEPP identified in the 2014 CEPP PIR/EIS (USACE 2014) encompasses the Northern Estuaries (St. Lucie River and Indian River Lagoon and the Caloosahatchee River and Estuary), Lake Okeechobee, a portion of the Everglades Agricultural Area (EAA), the WCAs, ENP, the Southern Estuaries (Florida Bay and Biscayne Bay), and the Lower East Coast (LEC) (**FIGURE 1**). CEPP South will include conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B and Northeast Shark River Slough (NESRS) of ENP which is the area of potential effect focused on in this BA. Reference the inset on **FIGURE 1** below.

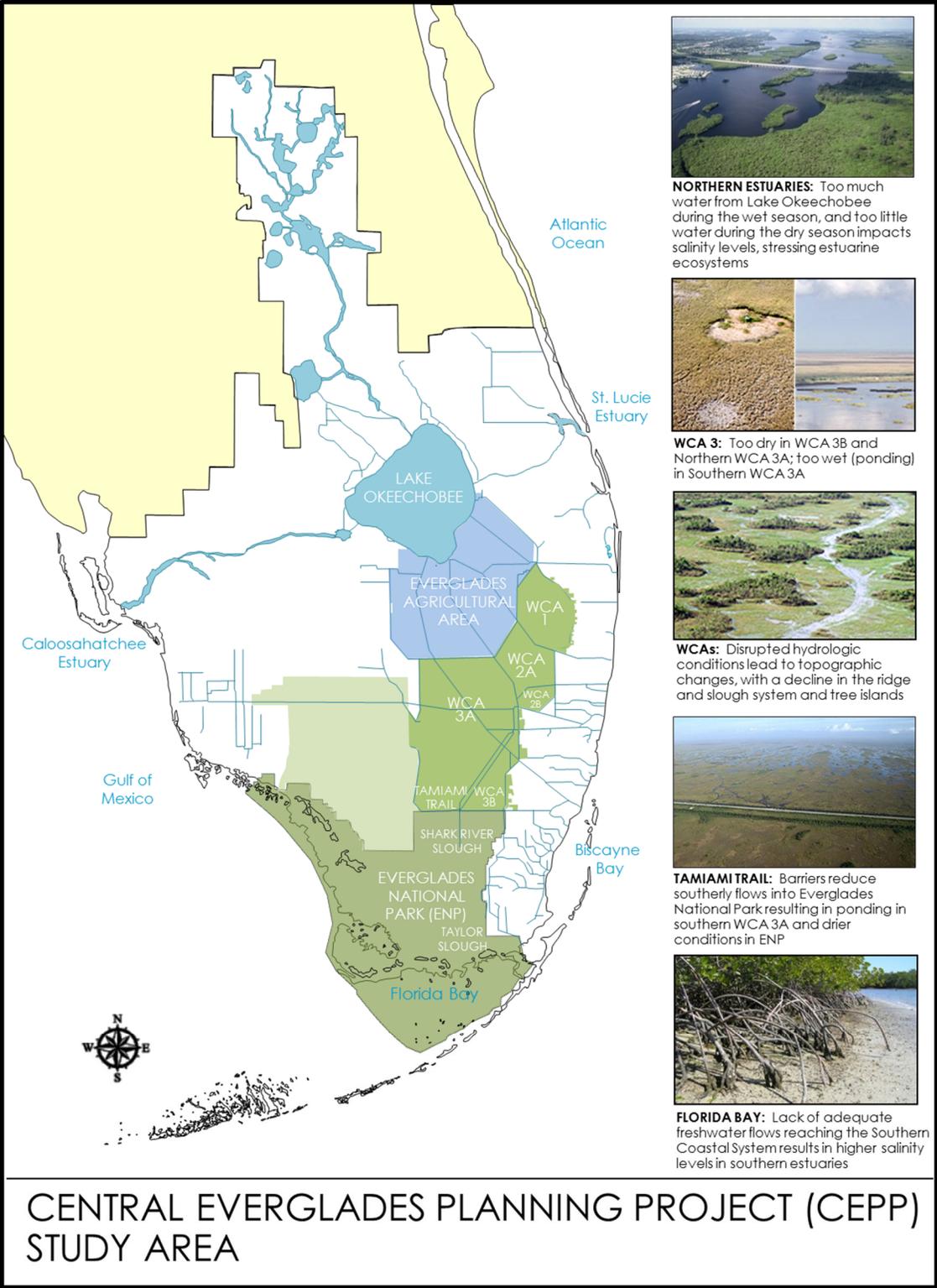


FIGURE 1. MAP OF STUDY AREA

## 4 CEPP SOUTH PROJECT DESCRIPTION

### 4.1 CEPP SOUTH PLAN FEATURES

The purpose of CEPP as identified in the 2014 CEPP Final PIR/EIS is to improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries (St. Lucie and Caloosahatchee), central Everglades (WCA 3 and ENP), and Florida Bay while increasing water supply for municipal and agricultural users (USACE 2014). Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual PPAs or amendments to existing PPAs between the Corps and the SFWMD. Phased implementation efforts maximize the opportunity to realize incremental restoration benefits by initially building features that utilize existing water in the system that meets state water quality standards. The Corps has completed a Validation Study for the CEPP: South component (CEPP South). The CEPP South Validation Study has confirmed project components, construction sequencing, and project dependencies as identified in the 2014 CEPP Final PIR/EIS and Chief's Report (USACE 2014). The 2014 CEPP Final PIR/EIS is available at: <https://www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Central-Everglades-Planning-Project/>.

Components of the CEPP Recommended Plan were grouped into three separate implementation phases within the 2014 CEPP Final PIR/EIS based upon the spatial distribution of the Recommended Plan features and the locations within the CEPP study area where separable hydrologic environmental benefits would accrue. As described in the 2014 PIR/EIS, these groupings included project features in northern WCA 3A (CEPP North), project features in southern WCA 3A, 3B and ENP (CEPP South), and project features that provide new water and required seepage management that benefits the entirety of the study area (CEPP New Water). In section 1308(a) of the Water Resources Development Act (WRDA) of 2018, Congress authorized the project for ecosystem restoration, Central and Southern Florida, Everglades Agricultural Area, Florida, which modified the New Water implementation phase of CEPP. The primary modifications are that the 14,000-acre CEPP A-2 Flow Equalization Basin (FEB) was converted to a 10,500-acre storage reservoir and a 6,500-acre Stormwater Treatment Area (STA) was added to the project. **TABLE 1** illustrates the Recommended Plan features identified within the 2014 CEPP Final PIR/EIS (USACE 2014), as modified by WRDA 2018. Reference Section 6 of the 2014 CEPP Final PIR/EIS for a complete description of project dependencies including CERP and non-CERP projects that must be constructed and operating before implementation of the associated CEPP features (USACE 2014). The specific features of the CEPP Recommended Plan to be implemented in CEPP South included conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay. Construction of CEPP features in CEPP South were identified to prepare the system for the future additional inflows from Lake Okeechobee by providing the necessary additional outlet capacity from WCA 3A. Potential effects that are evaluated within this BA include the direct and indirect effects associated with the CEPP South features, independent of other CEPP North or New Water project features. Both CEPP North and CEPP New Water will have updated ESA consultations for those specific actions.

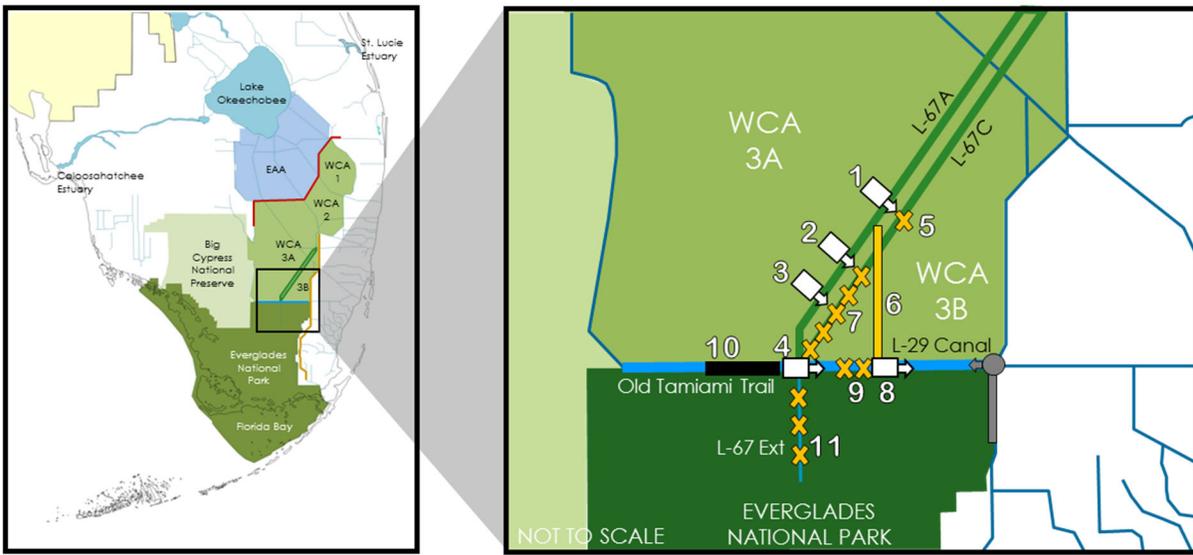
**TABLE 1. CEPP PROJECT FEATURES BY IMPLEMENTATION PHASE**

<b>CEPP North</b>	• L-6 Diversion
	• S-8 Pump Modifications
	• L-4 Levee Degrade and Pump Station
	• L-5 Canal Improvements
	• Miami Canal Backfill
<b>CEPP South</b>	• L-67 A Structure North
	• One L-67 C Gap (6,000 ft.)
	• Increase S-356 to 1,000 cfs
	• Increase S-333*
	• L-29 Gated Spillway
	• L-67 A Structures 2 and 3 South
	• L-67 A Spoil Mound Removal
	• Remove L-67 C Levee Segment
	• Remove L-67 Extension Levee (No Backfill)
	• 8.5 Mile Blue Shanty Levee
	• Remove L-29 Levee Segment
	• Backfill L-67 Canal Extension
• Remove Old Tamiami Trail**	
<b>CEPP New Water</b>	• Seepage Barrier L-31 N
	• A-2 Reservoir
	• Miami Canal and North New River Canal Improvements

\* Action currently being pursued by the South Florida Water Management District (SFWMD)

\*\* Action currently being pursued by the National Park Service (NPS)

CEPP South included construction of a new Blue Shanty levee extending from Tamiami Trail northward to the L-67A levee. The Blue Shanty levee will divide WCA 3B into two subunits, a large eastern unit (3B-E) and a smaller western unit, the Blue Shanty Flowway (3B-W). The Blue Shanty levee is the most efficient means to restore continuous southerly sheetflow through a practicable section of WCA 3B and alleviates concerns over effects on tree islands by maintaining lower water depths and stages in WCA 3B-E. The width of the 3B-W flowway is aligned to the width of the downstream 2.6-Mile Tamiami Trail Next Steps Bridge, optimizing the effectiveness of both the flowway and bridge. In the western unit, CEPP South included the construction of two new gated control structures on the L-67A, removal of the L-67C and L-29 Levees within the flowway, and construction of a divide structure in the L-29 Canal to enable continuous sheetflow of water to be delivered from WCA 3A through WCA 3B to ENP. A gated control structure was also identified in CEPP South to be added to the L-67A, outside the flowway, to improve the hydroperiod of the eastern unit of WCA 3B. Increased outlet capability at the S-333 structure at the terminus of the L-67A canal, removal of approximately 5.5 miles of the L-67 Extension Levee, and removal of approximately 6 miles of Old Tamiami Trail between the ENP Tram Road and the L-67 Extension Levee was identified in CEPP South to facilitate additional deliveries of water from WCA 3A directly to ENP. The capacity of S-333 would be increased to 2,500 cubic feet per second (cfs). In order to mitigate seepage from WCA 3B and NESRS, a new 1,000 cfs S-356 Pump Station would be constructed to replace the existing temporary 500 cfs S-356 Pump Station. **FIGURE 2** further illustrates components of the CEPP Recommended Plan identified to be included in CEPP South from the 2014 CEPP Final PIR/EIS (USACE 2014).



#	STRUCTURE	STRUCTURE/FEATURE TYPE	CFS	TECHNICAL NOTES
1	S-631	Gated Culvert	500	Delivers water from WCA 3A to 3B, east of L-67D Levee
2	S-632	Gated Culvert	500	Delivers water from WCA 3A to 3B, west of L-67D Levee
3	S-633	Gated Culvert	500	Delivers water from WCA 3A to 3B, west of L-67D Levee
4	S-333 (N)	Gated Spillway w/new canal	1150	Delivers water from L-67A Canal to L-29 Canal; supplements existing S-333 gated spillway
5		L-67C Levee Removal Gap		Gap, ~ 6000 feet (corresponding to S-631)
6	L-67D	Blue Shanty Levee		Levee, ~ 8.5 miles, connecting from L-67A to L-29 (6 feet high, 14-foot crest width, 3:1 side slopes)
7		L-67C Levee Removal		Complete removal of ~ 8 miles from New Blue Shanty Levee (L-67D)south to intersection of L-67A/L-67C; L-67C canal is not backfilled
8	S-355W	Gated Spillway	1230	Maintains water deliveries to eastern L-29 Canal
9		Levee Removal (L-29)		Removal of ~ 4.3 miles between L-67A and Blue Shanty Levee intersection with L-29 Levee
10		Removal of remnants of Old Tamiami Trail roadway		Removal of ~ 6 miles of roadway west of L-67 Extension
11		L-67 Extension Levee Removal and Canal Backfill)		Complete removal of ~ 5.5 miles of remaining L-67 Extension, including S-346 culvert

**FIGURE 2. CEPP RECOMMENDED PLAN SOUTHERN DISTRIBUTION AND CONVEYANCE FEATURES AND LOCATION (USACE 2014).**

The Corps and the SFWMD entered into a design agreement dated May 12, 2000 for purposes of conducting activities related to planning, engineering and design of CERP projects including the WCA 3 DECOMP Project. The DECOMP Physical Model (DPM) is designed to provide information regarding the effects of levee removal and canal backfill on the ridge and slough landscape. The main purpose of the DECOMP Project is to remove sheetflow obstructions in order to reestablish the ecological and hydrological connection between WCAs 3A and 3B, ENP, and BCNP. The DPM is being conducted pursuant to that agreement as a design effort to gather information to formulate decompartmentalization of WCA 3 and use for the design of CERP features. The DPM is a temporary field test, designed to provide essential information regarding environmental variables that may enable or control development or maintenance of the corrugated, ridge and slough landscape characteristic of the historic Everglades. The DPM is a limited duration, fully controlled field test conducted along a 3,000 foot stretch of the L-67A and L-67C levees and canals in WCA 3A and WCA 3B. The project provides for the temporary installation of 10, 60-inch culverts (collectively called S-152) with a combined discharge capacity of 750 cubic feet per second (cfs) installed along a stretch of the L-67A levee. Three 1,000 foot backfill treatments (no backfill, partial backfill and complete backfill) are located within the L-67C canal, adjacent to and directly southeast of the S-152 structure. The L-67C levee is gapped for 3,000 feet, directly east of the backfill treatments, to allow the flow from WCA 3A to pass through the culverts, through the "pocket", across the backfill treatments and into WCA 3B.

The duration of the DPM was extended from the originally proposed two year duration to four years with completion of a Supplemental EA and FONSI on July 8, 2015 (USACE 2015), while maintaining the permitted operational window from November through January. Phase 2, which was documented through a Supplemental EA and FONSI on November 9, 2017 (USACE 2017), further extended the DPM through 2021 and also allowed for year round operation of the DPM, subject to continued adherence to permitted water quality constraints.

Additional testing of the DPM was identified in the CEPP Adaptive Management Plan to inform and aid in future PED efforts for CEPP. Identified in the CEPP Adaptive Management Plan to help address uncertainty, identification number (ID#) 77, "Will the full suite of CEPP recommended plan structures be required in WCA 3B to create the Blue Shanty Flowway?" Data collected during 2013 through 2018 indicate a strong tendency of water to move eastward, and not in the historic, north-to-south direction as intended for southern WCA 3B in CEPP. During DPM Phase 1, late wet/early dry season flows (typically 2-3 months in duration) were examined in the pocket (between L-67A and C levees) and showed that water moves preferentially east (Sklar and Dreschel, 2015 and 2017; Larsen et al., 2017). While flow direction in the pocket is caused by localized hydrologic gradients associated with the DPM constructed features (i.e., L-67C levee gap), the eastward flow in the larger WCA 3B basin was also supported. During the high-water emergency operations from June-July 2017, S-152 discharges were of a similar or greater magnitude (514-638 cfs) as that proposed for CEPP culverts (500 cfs). These data therefore provide a useful example of stage changes within WCA 3B expected from the proposed CEPP culvert discharges. Daily stage changes in WCA 3B (adjusted by subtracting local daily rainfall) showed the highest stage increases nearest the DPM's L-67C levee gap (site TI9: 0.013 ft./d; 1.5-km east of the gap), lower increases in central 3B (Site 71: 0.007 ft./d; 7.5-km northeast of the gap) and a decrease at the site south of the gap (EDEN10: -0.002 ft./d; 6-km south of the gap). The variability of these stage changes (using daily values as replicates) is very large, and furthermore the resistance by vegetation must be accounted for to fully understand the discharge and stage relationships. Nevertheless, this information supports that additional measures are needed to redirect flow southward in WCA 3B.

During development of the 2014 CEPP PIR/EIS, several of the alternatives which were modeled and evaluated did not include the Blue Shanty Levee. Following from the detailed evaluations in the 2014 CEPP PIR/EIS (refer to Appendix E and Appendix G of the 2014 PIR/EIS for full discussion), the Blue Shanty Levee was identified as a critical component for the CEPP Recommended Plan. The Blue Shanty Flowway negates the need for additional seepage management features north of Tamiami Trail along the L-30 (eastern side of WCA 3B). Without the new WCA 3B levee, additional seepage management features would be required to protect against increased flooding risk to the adjacent Lower East Coast areas that would result from holding WCA 3B stages higher to promote significant wet season gravity outflows to the L-29 Canal. The flowway generated by the Blue Shanty Levee would increase flows through western WCA 3B while maintaining protective water depths in eastern WCA 3B. Of the alternatives considered for the 2014 CEPP PIR/EIS, the CEPP Recommended Plan best achieves the goal of re-establishing hydrologic and ecologic connectivity of WCA 3A, WCA 3B, and ENP by degrading the L-67 C and L-29 Levees west of the Blue Shanty Levee. Long, continuous and uninterrupted patterns of sheetflow from north to south are a defining characteristic of the Everglades. The proposed flowway restores sheetflow consistent with the landscape patterns of the natural system.

A portion of the features identified within CEPP South in the 2014 CEPP Final PIR/EIS are currently being pursued and constructed by the National Park Service (NPS) and the SFWMD. These include the increased capacity of S-333N and the removal of Old Tamiami Trail. In compliance with the National Environmental Policy Act (NEPA), the NPS, in cooperation with the Corps, prepared the Old Tamiami Trail Modifications Environmental Assessment (EA) that evaluated proposed modifications to the original 5.7-mile segment of Old Tamiami Trail located along the northern boundary of ENP (NPS 2018). The EA tiers off and incorporates by reference, the 2014 CEPP Final PIR/EIS which, as noted above and referenced in **TABLE 1** and **FIGURE 2**, included the removal of up to 5.7 miles of the Old Tamiami Trail. The purpose of the removal of Old Tamiami Trail is to enhance sheetflow from WCA 3A into the Shark River Slough via the S-12C and S-12D water control structures. Based on the analysis presented in the EA, the proposed action selected by the NPS includes removal of 5.45 miles of the roadbed. The removal of Old Tamiami Trail is anticipated to begin in January of 2020 with final construction completion by January 2022. The SFWMD initiated a request to the Corps by letter dated October 25, 2017 for the design of the S-333 spillway modification feature of the CEPP. The SFWMD requested the Corps to participate in the review of the SFWMD's design initiated in November of 2017. S-333N final design underwent a 33 USC 408 (Section 408) review that was completed in June of 2018. Section 408 provides the Corps the ability to grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project. After completion of the Section 408 review, the SFWMD awarded construction of S-333N in September 2018 with the goal of completing construction in April 2020. The Florida Department of Environmental Protection (FDEP) issued a Comprehensive Everglades Restoration Plan Regulation Act (CERPRA) permit for S-333N to the SFWMD in July 2018 for Emergency Limited Operations for WCA 3A High Water Relief, and these operations were included in the COP hydrologic modeling.

Features included within the Proposed Action are described below:

- S-333N – The new S-333 gated spillway would have a design capacity of 1,150 cfs, to deliver water from the L-67A Canal to the L-29 Borrow Canal. It would be constructed just north of the existing S-333 structure, bringing the combined design capacity of both structures to 2,500 cfs. The combination of the S-333 structures; along with the S-631, S-632, and S-633 described below; would supersede the S-12s in being the primary discharge point for WCA 3A.

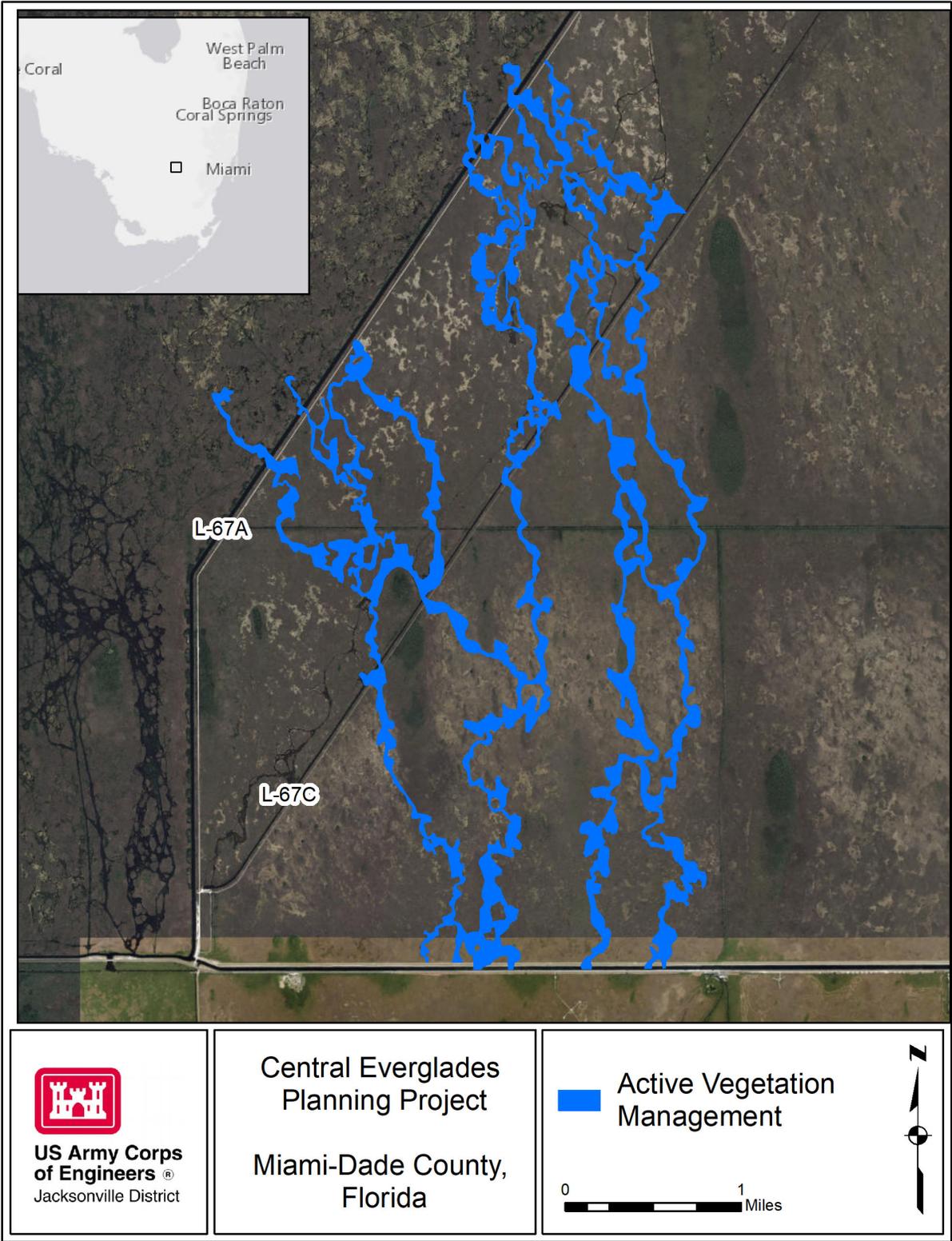
- S-631 - The structure would be a gated culvert with a design capacity of 500 cfs. S-631 would be located in L-67A to deliver water from WCA 3A to WCA 3B, east of the L-67D Levee. Spoil mounds along the northwestern side of the L-67A canal in the proximity of this structure will be removed to facilitate sheetflow connectivity with the WCA 3A marsh.
- S-632 - The structure would be a gated culvert with a design capacity of 500 cfs. S-632 would be located in L-67A to deliver water from WCA 3A to WCA 3B, within the WCA 3B flowway. Spoil mounds along the northwestern side of the L-67A canal in the proximity of this structure will be removed to facilitate sheetflow connectivity with the WCA 3A marsh.
- S-633 - The structure would be a gated culvert with a design capacity of 500 cfs. S-633 would be located in L-67A to deliver water from WCA 3A to WCA 3B, within the WCA 3B flowway. Spoil mounds along the northwestern side of the L-67A canal in the proximity of this structure will be removed to facilitate sheetflow connectivity with the WCA3A marsh.
- L-67D - The L-67D Levee would connect L-67A to L-29 and serve as the eastern perimeter levee for the WCA-3B flowway. It would run from due north from the L-29 Levee, starting approximately 4.3 miles east of S-333. The total length would be approximately 8.5 miles. The crest width would be 14 feet, the height would be 6 feet, and the side slopes would be 3:1.
- L-67C Levee (Separates WCA 3A from WCA 3B, parallel to the L-67A Levee) - Approximately 8 miles of the L-67C Levee, west of the proposed L-67D Levee, would be removed from the area north of Tamiami Trail within the WCA-3B flowway. The adjacent canal would not be backfilled. North of the new L-67D Levee, an approximate 6,000 feet gap would be created to distribute discharges from S-631 to eastern WCA-3B. The levee removal and gapping would allow a more natural flow of water from WCA 3A to WCA 3B, and the WCA 3B flowway would provide a direct hydrologic connection to ENP.
- L-67 Extension Levee (Located in ENP, south of S-333) - The entire remaining length of the L-67 Extension Levee (5.5 miles) would be removed and the adjacent borrow canal would be backfilled (5.5 miles). This would allow a more natural flow of water and provide a direct hydrologic connection between Northeast Shark River Slough and Western Shark River Slough.
- S-355W - The S-355W structure would be a gated spillway located in line with the L-29 Canal at the southern extent of the proposed L-67D levee, with a design capacity of 1,230 cfs. The purpose of the S-355W would be to convey water from the L-29 Canal within the Blue Shanty Flowway, eastward towards the existing S-334 spillway to provide assistance in meeting ENP ecological objectives.
- L-29 Levee (Southern boundary of WCA 3B, east of S-333). Approximately 4.3 miles of the L-29 Levee, west of the new L-67D Levee, would be removed. This would allow water to move through the WCA-3B Flowway.
- S-356 (New) - The new S-356 Pump Station would replace the current temporary pump station and have a design capacity of 1,000 cfs to provide seepage return to ENP. It would be located in the vicinity of the existing temporary pump station. This pump station should be able to concurrently handle the discharges from S-335 and the seepage into L-31N (from S-335 to G-211) without requiring discharges to tide.

The 2014 CEPP Final PIR/EIS included an AMMP to identify the monitoring information needed to inform implementation and to document progress towards meeting the project goals and objectives, as well as address uncertainties related to project performance. During preparation of the CEPP South Validation Study, the Corps coordinated with members of the Decomposition Physical Model (DPM) Science Team regarding the 2014 CEPP AMMP and the team is recommending the Corps to proceed with a sub-set of management options previously identified in the 2014 CEPP AMMP as part of the construction contracts for CEPP South as described below:

- *Complete Backfill of East-West Agricultural Ditch and Spoil Mound Removal* – The 2014 CEPP PIR/EIS and AMMP recommended management options to fill agricultural ditches in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal and to move water through the Tamiami Trail bridges. Reference the red circle in **FIGURE 3** for the location of the approximate 4.0 mile (21, 120 feet) east-west agricultural ditch to be backfilled. The horizontal east west black line in **FIGURE 3** shows the extent of backfill anticipated under Contract 1 for CEPP South. Approximately 1.56 miles (8,240 feet) are expected to be backfilled under Contract 1. The agricultural ditch appears to have been excavated, with the excavated material being cast on the north and south sides of the ditch. Vegetation has been naturally established on each of these material mounds. To fill the ditch, tracked equipment would push the excavated material and vegetation into the ditch, filling the ditch. The tracked equipment would work in a 50-foot width centered on the existing ditch centerline. The material on the ditch would be compacted so that the material in the ditch is lower than the surrounding grade by 6-inches. Muck material excavated from the S-631, S-632, and S-633 structures would then be placed so that the material in the ditch is equal with the surrounding grade. The tracked equipment would access the east-west ditches from both L-67 A and L-67 C. Following placement of the initial fill material for the L-67D Levee, additional access for the tracked equipment may be provided from L-67D.
- *Active Vegetation Management* – The 2014 CEPP PIR/EIS and AMMP recommended management options to pursue active vegetation management in the Blue Shanty Flowway to enhance flow by reconnecting historic sloughs. Historic sloughs in WCA 3B have been encroached with sawgrass due to changes in hydrology. Active vegetation management of these sloughs is expected to redirect more flow toward the natural orientation (south) of the landscape and to increase the areal extent of sheetflow in the Blue Shanty levee. Active vegetation management would be accomplished through the use of herbicides (glyphosate). The potential location for active vegetation management within the Blue Shanty Flowway is depicted in **FIGURE 4** in white, consisting of 1,003 acres. The white coloration depicts remnant sloughs.
- *L-29 Canal Temporary Pumps* – Due to the phased construction schedule currently anticipated for the CEPP South features, which includes completion of the S-631, S-632, and S-633 gated culverts on the L-67A Levee and corresponding L-67C gaps prior to the degrade of the 4.3 miles of the L-29 Levee between L-67A and the intersection of the Blue Shanty levee (L-67D) with the L-29 levee, temporary pumps will be installed adjacent to the L-29 Canal to facilitate the achievement of adaptive management objectives. The proposed temporary pumps would be utilized as an interim measure to improve the southerly flow conveyance to the L-29 Canal, complementing the active vegetation management within the Blue Shanty Flowway. During the 2017 and 2018 water management deviations for WCA 3A high water conditions, the SFWMD similarly deployed temporary pumps at the S-355A structure to allow for releases from WCA 3B flows that were added from WCA 3A by use of the S-152 structure. The temporary pumps would be installed between L-67A and the CEPP South L-67D. Since the location is west of S-355A, an additional

pump collection sump may need to be installed immediately adjacent and north of the L-29 Levee. When the pumps are removed in advance of the L-29 Levee segment removal, the sump location is expected to be returned to the pre-installation condition. Based on the use of temporary pumps during the 2017 and 2018 deviations, it is expected that no more than two sumps (100 cfs each) at approximately 25-50 feet length by 12-25 feet width is expected. The total footprint would be approximately 0.03 acres.





**FIGURE 4. LOCATION OF POTENTIAL ACTIVE MARSH IMPROVEMENT IN THE BLUE SHANTY FLOWWAY IN WCA 3B.**

The overarching project need for CEPP South is to increase the availability of water deliveries from WCA 3A through WCA 3B and into ENP through NESRS, to the maximum extent practicable, for the benefit of natural resources. Operations of the CEPP South features are expected to be subject to current downstream constraints, as identified by the proposed COP, which include maintaining the maximum operating limit in the L-29 canal at or below a specified stage and maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. Operations of the CEPP South features will also be subject to seasonal closures of the WCA 3A outlet structures identified to provide favorable conditions for CSSS Subpopulation A (CSSS-A) nesting and breeding.

The proposed COP describes, system constraints anticipated to affect the operation of CEPP South features. The formulation of COP was governed by the MWD and C-111 South Dade Project objectives and constraints, and lessons learned from a series of MWD Incremental Field Tests conducted under the authority of the MWD Project (i.e. Increment 1, Increment 1.1 and 1.2, and Increment 2) to raise the L-29 canal maximum operating limit for the purpose of increasing flows to NESRS in ENP. The alternative formulation process was a five step process that can best be described as the Initial Array, Round 1, Round 2, Round 3, and Round 3 Optimization. The formulation process was a collaborative multi-agency and public effort. Regional hydrologic modeling was performed to identify the Preferred Plan (Alternative Q+ (ALTQ+)) based on evaluation of system conditions. COP is the last step to implement operational changes to convey water from WCA 3A to the ENP using the constructed features of the pre-CERP (CERP) Foundation Projects (MWD and C-111 South Dade Project) and would result in a change to the 2012 WCAs, ENP, and ENP-South Dade Conveyance System (SDCS) Water Control Plan.

The COP Preferred Plan is ALTQ+, which is largely based on the Round 3 Alternative Q (ALTQ) with minor tweaks based on sensitivity runs performed. In general, ALTQ+ meets all the project objectives and does not violate project constraints. The main component of ALTQ+ that improves water deliveries to ENP is the Tamiami Trail Flow Formula (TTFF). The TTFF replaces the 1985 WCA 3A Rainfall Plan. The TTFF uses information from water stages (WCA 3A and NESRS), rainfall (historical median WCA 3A and BCNP inflows with forecast adjustments), potential evapotranspiration (historical median), and recent structure flows to predict upcoming weekly flow target volumes across Tamiami Trail. Reference **Appendix A** of the COP BA submitted to the USFWS on December 11, 2019 for a full description of the COP Preferred Plan that would be included in the 2020 Water Control Plan governing initial regional water management operations, including the CEPP South project area.

Current operational constraints for CEPP South as defined by the COP include:

1. To facilitate increased flows out of WCA 3A, the L-29 canal is operated up to 8.5 feet, NGVD which allows for improved water deliveries to ENP via NESRS. However, the operating canal stages between 8.3 and 8.5 feet, NGVD are limited to 90 days per water year (May 1 to April 30), which is the interim FDOT constraint until Tamiami Trail Next Steps construction is completed. In addition, canal stages are limited by continued adherence 8.5 Square Mile Area (SMA) flood mitigation criteria. Outside the 90-day FDOT limit, the L-29 canal level will be maintained below 8.3 feet, NGVD subject to downstream constraints.

The 2008 MWD Tamiami Trail Limited Re-evaluation Report (LRR) included recommendations to build a one mile long bridge in the project area's eastern segment and raise the headwater stage constraints in the L-29 Borrow Canal by one foot from 7.5 feet, NGVD to 8.5 feet, NGVD, which required road mitigation on parts of Tamiami Trail (U.S. Highway 41) in the action area,

located between S-333 on the west and S 334 on the east. To ensure the safety and stability of the roadway sub base infrastructure along this segment of Tamiami Trail (U.S. Highway 41), operational constraints [referenced within Section 6 (Recommended Plan) of the 2008 Tamiami Trail LRR] were set forth within the “Contract Between the United States of America and FDOT for Relocation, Rearrangement, or Alteration of Facilities Modified Water Deliveries to Everglades National Park Project (Relocation Agreement)” dated September 25, 2008. FDOT allowed USACE to use a new standard for the Tamiami Trail roadway (adopted in the March 2008 FDOT Flexible Pavement Design Manual) thereby reducing the required separation (Design Base High Water Clearance) between the Design High Water (DHW) and the bottom of the road base. Operational constraints as outlined within the Relocation Agreement dated September 25, 2008 are minimum protective standards that are included in ALTQ+. In coordination with FDOT, USACE has expanded hydrologic monitoring of water levels along the section of Tamiami Trail that is of concern. Data collected in accordance with the monitoring plan developed in consultation with FDOT will help to inform L-29 canal operations in COP.

The requirements of the Relocation Agreement, including any subsequent amendments to this agreement between USACE and FDOT, shall remain unchanged until full completion of Tamiami Trail Next Steps roadway construction, currently anticipated for late 2022 or early 2023. ALTQ+ includes the capability to further extend and/or remove the cumulative duration criteria for operating the L-29 Canal above 8.3 feet NGVD (referenced as the FDOT roadway constraint), while continuing to adhere to the maximum operating stage limit of 8.5 feet NGVD. Implementation of this change would not occur without: (1) written approval from FDOT to remove the L-29 Canal constraint identified in Appendix A (Water Control Plan), based on a joint evaluation of monitoring data by the USACE and the FDOT (this data evaluation is ongoing with the MWD Increment 2 field test); (2) demonstration of the capability of the completed MWD Project components to maintain flood mitigation requirements for the 8.5 SMA under the raised L-29 Canal maximum operating limit of up to 8.5 feet, NGVD; and (3) consideration of increased low-water stages within WCA 3A, including along the western L-29 Canal between S-12A and S-333. The requirement for all three pre-conditions to be met may preclude these operations during the initial implementation period of COP, since additional inflows of treated water to WCA 3A from the upstream Lake Okeechobee and EAA basins and/or additional flood mitigation requirements may be necessary.

2. The seasonal closures for the S-12A, S-12B, S-343A and S-343B remain unchanged from the 2016 ERTF BO. However, ALTQ+ includes removal of the seasonal closures at S-344 and includes limited adjustments to the S-332D seasonal pump restrictions. Lifting of S-344 closure dates and extending S-332D full pumping by an additional month, from November 30 to December 31, were based on coordination with the USFWS during development of the COP.
3. The Site 71 gage (USGS ID: 255250080335001) in WCA 3B must be below 8.5 feet NGVD for operation of S-152, in addition to other water quality constraints identified in the proposed COP Water Control Plan. For the interim operation condition following execution of Contract 1 for CEPP South, the CEPP structures (S-631, S-632, and/or S-633) would be operated consistent with the DPM (S-152) to maintain indicated hydroperiod effects. Operations of these structures would be discontinued when the stage at Site 71 exceeds 8.5 feet, NGVD.

No additional modeling of the CEPP South features was conducted to support development of this BA. Hydrologic modeling completed for the proposed COP was determined to provide sufficient information regarding anticipated operations of existing water management infrastructure. This BA was prepared based on qualitative analysis, utilizing prior hydrologic modeling from the 2013 CEPP BA, and the 2019 COP BA.

Reference **Section 2**. Additional modeling to support development of a Draft Project Operating Manual (DPOM) for the CEPP South features and supporting National Environmental Policy Act (NEPA) documentation is anticipated to be complete by July 2020. If any effects to listed species associated with the development of the DPOM are revealed that were not previously considered in this 2020 CEPP South BA (via an update to the Water Control Plan for the WCAs, ENP, and ENP to SDCS), the Corps will reinstate ESA consultation, as appropriate under 50 CFR § 402.16.

## 4.2 Project Authority

CEPP was authorized by Section 1401(4)1 of the WRDA of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217.

## 4.3 Project Goal, Objectives, Constraints

The goals of CEPP remains consistent with prior planning efforts of CERP (USACE 1999). Specific CEPP objectives were identified in the 2014 CEPP PIR/EIS to address the central part of the southern Florida ecosystem to improve the quantity, quality, timing, and distribution of water flows to the central Everglades, including WCA 3 and ENP (USACE 2014). CEPP South will include conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay.

### 4.3.1 Goal and Objectives

The six CEPP objectives identified in the 2014 CEPP PIR/EIS were built upon the overall CERP goals and objectives (**TABLE 2**) in order to provide the needed linkages between the projects. CERP included goals for enhancing economic values and social wellbeing with specific objectives towards improving other project purposes of the C&SF project, including agricultural, municipal, and industrial water supply (USACE 2014). Section 601(h) of WRDA 2000 states “the overarching objective of the Plan is the restoration, preservation, and protection of the south Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection”. The goals of CEPP South remain consistent with those identified in the 2014 CEPP PIR/EIS (USACE 2014). Reference **TABLE 2**.

**TABLE 2. GOALS AND OBJECTIVES OF CEPP. GOALS AND OBJECTIVES FOR CERP ARE ALSO DEPICTED TO ACKNOWLEDGE THE DIRECT LINKAGE BETWEEN THE TWO PROJECTS.**

<b>CERP Goal: Enhance Ecological Values</b>	
<b>CERP Objective</b>	<b>CEPP Objective</b>
Increase the total spatial extent of natural areas	No corresponding CEPP objective; consider this objective in future increments
Improve habitat and functional quality	Restore seasonal hydroperiods and freshwater distribution to support a natural mosaic of wetland and upland habitat in the Everglades System
	Improve sheetflow patterns and surface water depths and durations in the Everglades system in order to reduce soil subsidence, the frequency of damaging peat fires, the decline of tree islands, and salt water intrusion
	Reduce high volume discharges from Lake Okeechobee to improve the quality of oyster and SAV habitat in the northern estuaries
Improve native plant and animal species abundance and diversity	Reduce water loss out of the natural system to promote appropriate dry season recession rates for wildlife utilization
	Restore more natural water level responses to rainfall to promote plant and animal diversity and habitat function
<b>CERP Goal: Enhance Economic Values and Social Well Being</b>	
Increase availability of fresh water (agricultural/municipal & industrial)	Increase availability of water supply
Reduce flood damages (agricultural/urban)	No corresponding CEPP objective; consider this objective in future increments
Provide recreational and navigation opportunities	Provide recreational opportunities
Protect cultural and archeological resources and values	Protect cultural and archeological resources and values

**4.3.2 Constraints**

Project constraints were recognized to ensure that the proposed project would not reduce the level of service for flood protection, protect existing legal users, and meet applicable water quality standards for the natural system. In accordance with Section 601(h)(5) of WRDA 2000, the following are constraints identified in the 2014 CEPP PIR/EIS for CEPP implementation:

- Avoid any reduction in the existing level of service for flood protection caused by plan implementation
- Provide replacement sources of water of comparable quantity and quality for existing legal users caused by plan implementation

Constraints identified for CEPP South remain consistent with those identified in the 2014 CEPP PIR/EIS (USACE 2014).

**5 PERFORMANCE MEASURES**

The purpose of CEPP as identified in the 2014 CEPP Final PIR/EIS is to improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries (St. Lucie and Caloosahatchee), central Everglades (WCA 3 and ENP), and Florida Bay while increasing water supply for municipal and agricultural users (USACE 2014). In order to achieve the action objective, the Corps with input from the Project

Delivery Team (PDT) team, identified a list of performance measures (PMs) for purposes of evaluating the systems response to alternative plans during the development of the 2014 CEPP Final PIR/EIS.

Additional modeling of the CEPP South features referenced in **FIGURE 2** was not conducted at the time this BA was prepared; therefore modeling performed to support selection of a Recommended Plan from the 2014 CEPP Final PIR/EIS and 2013 CEPP BA along with modeling performed to support selection of a Preferred Plan (ALTQ+) from the 2019 COP BA will be referenced within this BA to determine species effects determinations on Federally listed threatened and endangered species as a result of CEPP South implementation.

Several of the project tools utilized within the 2013 CEPP BA (and referenced in the 2018 CEPP BA) were previously utilized during planning efforts for the Everglades Restoration Transition Plan (ERTP) in which PMs and ecologic targets (ET) were developed from the USFWS Multi-Species Transition Strategy for WCA 3A (USACE 2011, USFWS 2010). The USFWS Multi-Species Transition Strategy includes species-specific ranges (windows) which reflect water levels or water depths identified by species experts based on the best available science that are believed to provide optimal conditions for wading bird breeding and foraging as well as tree island considerations. Under ERTP, PMs are defined as a set of operational rules that identify optimal WCA 3A water stages and recession rates to improve conditions in WCA 3A for snail kite, wood stork, wading birds and tree islands. The ETs are designed to support the intention of PMs by providing hydroperiod guidelines to help maintain appropriate nesting and foraging habitat. In addition to the PMs and ETs, ecological planning tools developed by the Joint Ecosystem Modeling group (JEM) were also used within the 2013 CEPP BA for purposes of evaluating habitat suitability for fish and wildlife resources (Reference <https://www.jem.gov/>). The regional hydrologic model utilized as the primary tool to identify the CEPP Recommended Plan in the 2014 CEPP Final PIR/EIS (USACE 2014) included the South Florida Regional Simulation Model Glades-LECSA Implementation (RSMGL). Reference Section 4.3.3 (Performance Measures) of the 2013 CEPP BA for a complete description of the tools used to evaluate the CEPP Recommended Plan (USACE 2013).

Plan formulation efforts for the COP also utilized the same regional hydrologic models (RSMGL) and ecological planning tools as those used in the 2014 CEPP Final PIR/EIS and 2013 CEPP BA, in addition to metrics identified from the 2016 ERTP BO. Reference Section D.2.4.1 (Evaluation Tools) of the 2019 COP BA for a complete description of the tools used to evaluate the COP Preferred Plan (USACE 2019). Reference Section 4.3.5 of the 2013 CEPP BA and Section D.2.4 of the 2019 COP BA for further information on modeling assumptions related to the baselines used for comparative analysis to determine potential effects of the preferred plans (ALT4R2 [2013 CEPP BA] and ALTQ+ [2019 COP BA]).

## **6 DESCRIPTION OF EXISTING CONDITIONS, LISTED SPECIES AND DESIGNATED CRITICAL HABITAT**

### **6.1 Affected Environment**

CEPP South will include conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay. The 2013 CEPP BA and the 2014 CEPP Final PIR/EIS provides a full description of the affected environment within the action area and is incorporated by reference into this document. The information is available for review at [http://141.232.10.32/pm/projects/proj\\_51\\_cepp.aspx](http://141.232.10.32/pm/projects/proj_51_cepp.aspx).

### 6.1.1 Vegetative Communities

The Everglades landscape is dominated by a complex of freshwater wetland communities that includes open water sloughs and marshes, dense grass- and sedge-dominated marshes, forested islands, and wet marl prairies. The primary factors influencing the distribution of dominant freshwater wetland plant species of the Everglades are soil type, soil depth, and hydrological regime (USFWS 1999). These communities generally occur along a hydrological gradient with the slough/open water marsh communities occupying the wettest areas (flooded more than nine months per year), followed by sawgrass marshes (flooded six to nine months per year), and wet marl prairie communities (flooded less than six months per year) (USFWS 1999). The freshwater wetlands of the Everglades eventually grade into intertidal mangrove wetlands and sub tidal seagrass beds in the estuarine waters of Florida Bay.

Development and drainage over the last century have dramatically reduced the overall spatial extent of freshwater wetlands within the Everglades, with approximately half of the pre-drainage 1.2 million hectares of wetlands being converted for development and agriculture (Davis and Ogden 1997). Alteration of the normal flow of freshwater through the Everglades has also contributed to conversions between community types, invasion by exotic species, and a general loss of community diversity and heterogeneity. Vegetative trends in ENP have included a substantial shift from the longer hydroperiod slough/open water marsh communities to shorter hydroperiod sawgrass marshes (Davis and Ogden 1997; Armentano et al. 2006). In addition, invasion of sawgrass marshes and wet prairies by exotic woody species has led to the conversion of some marsh communities to forested wetlands (Gunderson et. al. 1997).

Vegetative communities of the WCAs have suffered from both over drainage and prolonged periods of inundation associated with the stabilization of water levels (USACE 1999). Many areas of WCA 3A still contain relatively good wetland habitat consisting of a complex of tree islands, sawgrass marshes, wet prairies, and aquatic sloughs. Water lilies (*Nymphaea alba*) were originally widespread in sloughs throughout many areas of WCA 3A (McVoy et al. 2011). Reduced freshwater inflow and drainage by the Miami Canal have overdrained the northern portion of WCA 3A, resulting in increased fire frequency and the associated loss of tree islands, wet prairie and aquatic slough habitat. Northern WCA 3A is currently dominated largely by mono-specific sawgrass stands with large areas of shrubs and monotypic cattail. In addition, northern WCA 3A lacks the diversity of communities that exists in southern WCA 3A. In southern WCA 3A, Wood and Tanner (1990) documented the trend toward deep water lily dominated sloughs due to impoundment. In approximately 1991, the hydrology of southern WCA 3A shifted to the deeper water and extended hydroperiods of the new, wet hydrologic era resulting in a northward shift in slough vegetation communities within the WCA 3A impoundment (Zweig and Kitchens 2008). Typical Everglades vegetation, including tree islands, wet prairies, sawgrass marshes and aquatic sloughs also occur throughout WCA 3B. However, within WCA 3B, the ridge and slough landscape has been severely degraded by the virtual elimination of overland sheetflow due to the L-67 canal and levee system. WCA 3B experiences very little overland flow and has become primarily a rain-fed system predominated by shorter hydroperiod sawgrass marshes with relatively few sloughs or tree islands remaining. Water levels in WCA 3B are also too low and do not vary seasonally, contributing to poor ridge and slough patterning. Loss of sheetflow to WCA 3B has also accelerated soil loss reducing elevations of the remaining tree islands in WCA-3B and making them vulnerable to high water stages.

Vegetative trends in ENP have included a substantial shift from the longer hydroperiod slough/open water marsh communities to shorter hydroperiod sawgrass marshes (Davis and Ogden 1997, Armentano et al. 2006). Flows through Shark River Slough under current system compartmentalization and water

management practices are greatly reduced when compared with pre-drainage conditions. The result has been lower wet season depths and more frequent and severe dry downs in sloughs and reduction in extent of shallow water edges (McVoy et al. 2011). Over-drainage in the peripheral wetlands along the eastern flank of (NESRS) has resulted in shifts in community composition, invasion by exotic woody species and increased susceptibility to fire. Areas within the eastern marl prairies along the boundary of ENP suffer from over-drainage, reduced water flow, exotic tree invasion and frequent human-induced fires (Lockwood et al. 2003; Ross et al. 2006). In addition, invasion of sawgrass marshes and wet prairies by exotic woody species has led to the conversion of some marsh communities to forested wetlands (Gunderson et al. 1997).

In contrast to the vast extent of wetland communities, upland communities comprise a relatively small component of the Everglades landscape and are largely restricted to Long Pine Key, the northern shores of Florida Bay, and the many tree islands scattered throughout the region. Vegetative communities of Long Pine Key include rockland pine forest and tropical hardwood forest. In addition, substantial areas of tropical hardwood hammock occur along the northern shores of Florida Bay and on elevated portions of some forested islands.

The estuarine communities of Florida Bay have also been affected by upstream changes in freshwater flows through the Everglades. A reduction in freshwater inflows into Florida Bay and alterations of the normal salinity balance have affected mangrove community composition and may have contributed to a large-scale die-off of seagrass beds (USFWS 1999).

#### **6.1.1.1 Slough/Open Water Marsh**

The slough/open water marsh community occurs in the lowest, wettest areas of the Everglades. This community is a complex of open water marshes containing emergent, floating aquatic, and submerged aquatic vegetation components. The emergent marsh vegetation is typically dominated by spikerushes (*Eleocharis cellulosa* and *E. elongata*), beakerushes (*Rhynchospora tracyi* and *R. inundata*), and maidencane (*Panicum hemitomon*). Common floating aquatic dominants include fragrant water lily (*Nymphaea odorata*), floating hearts (*Nymphoides aquatica*), and spatterdock (*Nuphar lutea*); and the submerged aquatic community is typically dominated by bladderwort (*Utricularia foliosa*) and periphyton. As shown by Davis et al. (1997), vegetative trends in the ENP have included the conversion of slough/open water marsh communities to shorter hydroperiod sawgrass marshes.

#### **6.1.1.2 Sawgrass Marsh**

Sawgrass marshes are dominated by dense to sparse stands of *Cladium jamaicense*. Sawgrass marshes occurring on deep organic soils (more than one meter) form tall, dense, nearly monospecific stands. Sawgrass marshes occurring on shallow organic soils (less than one meter) form sparse, short stands that contain additional herbaceous species such as spikerush, water hyssop (*Bacopa caroliniana*), and marsh mermaid weed (*Proserpinaca palustris*) (Gunderson et al. 1997). The adaptations of sawgrass to flooding, burning, and oligotrophic conditions contribute to its dominance of the Everglades vegetation. Sawgrass-dominated marshes once covered an estimated 300,000 acres of the Everglades. Approximately 70,000 acres of tall, monospecific sawgrass marshes have been converted to agriculture in the EAA. Urban encroachment from the east and development within other portions of the Everglades has consumed an additional 79,000 acres of sawgrass-dominated communities (Davis and Ogden 1997).

### 6.1.1.3 Wet Marl Prairie

Wet marl prairies occur on marl soils and exposed limestone and experience the shortest hydroperiods of the slough/marsh/prairie wetland complex. Marl prairie is a sparsely vegetated community that is typically dominated by muhly grass (*Muhlenbergia capillaris*) and short-stature sawgrass. Additional important constituents include black sedge (*Schoenus nigricans*), arrowfeather (*Aristida purpurascens*), Florida little bluestem (*Schizachyrium rhizomatum*), and Elliot's lovegrass (*Eragrostis elliottii*). Marl prairie is found on marl substrates. Marls are fine, white, calcareous muds formed from calcite precipitated by a mixture of green algae, blue green algae, and diatoms, known as periphyton. Periphyton mats that grow loosely attached to the vegetation and exposed limestone are an important component of this community. Marl prairies occur in the southern Everglades along the eastern and western periphery of SRS. Approximately 146,000 acres of the eastern marl prairie have been lost to urban and agricultural encroachment (Davis and Ogden 1997). Tree Islands

Tree islands occur within the freshwater marshes in areas of slightly higher elevation relative to the surrounding marsh. The lower portions of tree islands are dominated by hydrophytic, evergreen, broad-leaved hardwoods such as red bay (*Persea palustris*), sweetbay, dahoon holly (*Ilex cassine*), and pond apple (*Annona glabra*). Tree islands typically have a dense shrub layer that is dominated by coco-plum (*Chrysobalanus icaco*). Additional constituents of the shrub layer commonly include buttonbush and large leather fern (*Acrostichum danaeifolium*). Elevated areas on the upstream side of some tree islands may contain an upland tropical hardwood hammock community dominated by species of West Indian origin (Gunderson et al. 1997), with species composition shifting toward the north toward more temperate hardwood hammock species. Extended periods of flooding may result in tree mortality and conversion to a non-forested community. In the over-drained areas of WCA 3A, historic wildfires have consumed tree island vegetation and soils. Overall, the spatial extent of tree islands in WCA 3 declined by 61% between 1940 and 1995 (Patterson and Finck 1999). Portions of the WCAs have been flooded to the extent that many forested islands have lost all tropical hardwood hammock trees. Tree islands are considered an extremely important contributor to habitat heterogeneity and overall species diversity within the Everglades ecosystem because they provide nesting habitat and refugia for birds and upland species and serve as hotspots of plant species diversity within the Greater Everglades (Sklar and van der Valk 2002, USFWS 1999). Tree islands also contain extraordinarily high levels of total phosphorus in their soil suggesting that they may play a major role in the biogeochemical cycles of nutrients in the Everglades (Troxler and Childers 2010; Wetzel et al. 2009, 2011). Wetzel et al. (2011) found that soil total phosphorus levels within WCA 3A and WCA 3B tree islands were approximately 4 times higher than the surrounding marsh total phosphorus levels. Tree islands within WCA 3B may help to capture and focus nutrients, assisting to minimize potential effects on sawgrass and wet prairie communities within this region (Wetzel et al. 2011).

### 6.1.1.4 Mangroves

Mangrove communities are forested wetlands occurring in intertidal, low-wave-energy, estuarine and marine environments. Within the action area, extensive mangrove communities occur in the intertidal zone of Florida Bay. Mangrove forests have a dense canopy dominated by four species: red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erectus*). Mangrove communities occur within a range of salinities from 0 to 40 parts per thousand (ppt). Florida Bay experiences salinities in excess of 40 ppt on a seasonal basis. Declines in freshwater flow through the Everglades have altered the salinity balance and species composition of mangrove communities within Florida Bay. Changes in freshwater flow can lead to an

invasion by exotic species such as Australian pine (*Casuarina equisetifolia*) and Brazilian pepper (*Schinus terebinthifolius*).

#### 6.1.1.5 Seagrass Beds

Seagrasses are submerged vascular plants that form dense rooted beds in shallow estuarine and marine environments. This community occurs in sub tidal areas that experience moderate wave energy. Within the action area, extensive seagrass beds occur in Florida Bay. The most abundant seagrasses in south Florida are turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*), and shoal grass (*Halodule wrightii*). Additional species include star grass (*Halophila engelmannii*), paddle grass (*Halophila decipiens*), and Johnson's seagrass (*Halophila johnsonii*). Widgeon grass may also occur in seagrass beds in areas of low salinity. Seagrasses have an optimum salinity range of 24 to 35 ppt, but can tolerate considerable short term salinity fluctuations. Large-scale seagrass die-off has occurred in Florida Bay since 1987, with over 18% of the total bay area affected. Suspected causes of seagrass mortality include high salinities and temperatures during the 1980s and long-term reductions of freshwater inflow to Florida Bay (RECOVER 2009).

#### 6.1.1.6 Rockland Pine Forest

In Florida, pine rocklands are located on the Miami Rock Ridge in present day Miami and in ENP, in the Florida Keys, and in the Big Cypress Swamp. Pine rocklands differ to some degree between and within these areas with regard to substrate (*e.g.* amount of exposed limestone, type of soil), elevation, hydrology, and species composition (both plant and animal). Pine rocklands occur in a mosaic with primarily two other natural community types; rockland hammock and marl prairie. Pine rocklands grade into rockland hammock; pine rocklands have an open pine canopy and rockland hammock has a closed, hardwood canopy. Marl prairies differ from pine rocklands in having no pines, an understory dominated by grasses and sedges, and a minimal cover of shrubs.

Pine rocklands within the action area occur on the Miami Rock Ridge and extend into the Everglades as Long Pine Key. Pine rocklands occur on relatively flat terrain with moderately to well-drained soils. Limestone bedrock is close to the surface and the soils are typically shallow accumulations of sand, marl, and organic material in depressions and crevices in the rock surface. Pine rockland is an open, savanna-like community with a canopy of scattered south Florida slash pine (*Pinus elliottii* var. *densa*) and an open, low-stature understory. Most sites are wet for only short periods following heavy rains (Florida Natural Areas Inventory 1990). During the rainy season, however, some sites may be shallowly inundated by slow flowing surface water for up to 60 days per year. This is a fire-maintained community that requires regular burns to maintain the open shrub/herbaceous stratum and to control hardwood encroachment (Gunderson et. al1997). The over story is comprised of scattered south Florida slash pines. The shrub layer is comprised of a diverse assemblage of tropical and temperate species. Common shrubs include cabbage palm (*Sabal palmetto*), coco-plum (*Chrysobalanus icaco*), myrsine (*Rapanea punctata*), saw palmetto (*Serenoa repens*), southern sumac (*Rhus copallinum*), strangler fig (*Ficus aurea*), swamp bay (*Persea palustris*), wax myrtle (*Myrica cerifera*), white indigo berry (*Randia aculeata*), and willow-bustic (*Sideroxylon salicifolium*). The herbaceous stratum is comprised of a very diverse assemblage of grasses, sedges, and forbs. Common herbaceous species include crimson bluestem (*Schizachyrium sanguineum*), wire bluestem (*Schizachyrium gracile*), hairy bluestem (*Andropogon longiberbis*), bushy bluestem (*Andropogon glomeratus* var. *pumilis*), candyweed (*Polygala grandiflora*), creeping morning-glory (*Evolvulus sericeus*), pineland heliotrope (*Heliotropium polyphyllum*), rabbit bells (*Crotolaria rotundifolia*), and thistle (*Cirsium horridulum*) (USFWS 1999). This community occurs on areas of relatively high

elevation and consequently, has been subject to intense development pressure. In addition, fragmentation, fire suppression, invasion by exotic species, and a lowered water table have negatively affected the remaining tracts of pine rockland (USFWS 1999).

Pine rocklands were historically found in Miami-Dade County along the Miami Rock ridge from approximately North Miami Beach south and west to Long Pine Key in ENP. Pine rocklands in the Florida Keys are now restricted to the Lower Keys. Significant tracts of pine rocklands occur on Big Pine Key, No Name Key, Little Pine Key, Cudjoe Key, and Upper Sugarloaf Key in Monroe County. They also occur in southern BCNP (USFWS 1999). The largest remaining contiguous areas of pine rockland are found in Long Pine Key in ENP, on Big Pine Key and in southern BCNP. Small pine rockland fragments also persist along the Miami Rock Ridge from Florida City north to approximately Southwest 32nd Street in Miami-Dade County (USFWS 1999). There are noticeable differences in species composition between the pine rocklands found in the Florida Keys and the mainland. The shrub layer in pine rocklands occurring in the northern end of the Miami Rock ridge more closely resembles pine flatwoods as a result of the amount of sandy soils in the area. Pine rocklands in the lower Florida Keys have a sub canopy composed of several palms and hardwoods. Pine rocklands on the mainland have a more diverse herbaceous layer due to the presence of temperate species and some tropical species that do not occur in the Florida Keys.

Pine rocklands are maintained by regular fire and are susceptible to other natural disturbances such as hurricanes, frost events, and sea level rise. Fires historically burned on an interval of approximately every 3 to 7 years, and were typically started by lightning strikes. Above ground portions of hardwood shrubs are typically killed by fires; palms typically produce new growth post-fire. The amount of wood understory growth is directly related to the length of time since the last fire. Herbaceous diversity declines with time since last fire. Presently, prescribed fire must be periodically introduced into pine rocklands to sustain community structure, prevent invasion by woody species, maintain high herbaceous diversity and prevent succession to hardwood hammock.

#### **6.1.1.7 Tropical Hardwood Hammock**

Tropical hardwood hammocks occur on upland sites where limestone is near the surface. Tropical hardwood hammocks within the action area occur on the Miami Rock Ridge, along the northern shores of Florida Bay and on elevated outcrops on the upstream side of tree islands. This community consists of a closed canopy forest dominated by a diverse assemblage of hardwood tree species, a relatively open shrub layer, and a sparse herbaceous stratum. This community is dominated by West Indian species and contains numerous species whose entire United States distribution is limited to tropical hammocks of south Florida. Common canopy species include gumbo-limbo (*Bursera simaruba*), paradise tree (*Simarouba glauca*), pigeon-plum (*Coccoloba diversifolia*), strangler fig, wild mastic (*Sideroxylon foetidissimum*), willow-bustic, live oak (*Quercus virginiana*), short-leaf fig (*Ficus citrifolia*), and wild tamarind (*Lysiloma bahamense*). Common understory species include black ironwood (*Krugiodendron ferreum*), inkwood (*Exothea paniculata*), lancewood (*Ocotea coriacea*), marlberry (*Ardisia escallonoides*), poisonwood (*Metopium toxiferum*), satinleaf (*Chrysophyllum oliviforme*), and white stopper (*Eugenia axillaris*). Common species of the sparse shrub/herbaceous layer include shiny-leaf wild-coffee (*Psychotria nervosa*), rouge plant (*Rivinia humilis*), false mint (*Dicliptera sexangularis*), bamboo grass (*Lasiacis divaricata*), and woods grass (*Oplismenus hirtellus*). This community occurs on areas of relatively high elevation and consequently, has been subject to intense development pressure. Fragmentation of remaining tracts, invasion by exotic species, and alterations of water table elevations have also had negative impacts on this community. Tropical hardwood hammocks on the Miami Rock Ridge have been affected by a lowered water table associated with the reduction of freshwater flow

through the Everglades. In contrast, tree islands in the WCAs have been flooded to the extent that many have lost all tropical hardwood hammock trees.

### 6.1.2 Fish and Wildlife Species

Aquatic macro invertebrates form a vital link between the algal and detrital food web base of freshwater wetlands and the fishes, amphibians, reptiles, and wading birds that feed upon them. Important macro invertebrates of the freshwater aquatic community include crayfish (*Procambarus alleni*), riverine grass shrimp (*Palaemonetes paludosus*), amphipods (*Hyallela aztecus*), Florida apple snail (*Pomacea paludosa*), Seminole ramshorn (*Planorbella duryi*), and numerous species of aquatic insects (USACE 1999).

Small freshwater marsh fishes are also important processors of algae, plankton, macrophytes, and macro invertebrates. Marsh fishes provide an important food source for wading birds, amphibians, and reptiles. Common small freshwater marsh species include the native and introduced golden topminnow (*Fundulus chrysotus*), least killifish (*Heterandria formosa*), Florida flagfish (*Jordenella floridae*), golden shiner (*Notemigonus crysoleucas*), sailfin molly (*Poecilia latipinna*), bluefin killifish (*Lucania goodei*), oscar (*Astronotus ocellatus*), eastern mosquitofish (*Gambusia holbrooki*), and small sunfishes (*Lepomis spp.*) (USACE 1999). The density and distribution of marsh fish populations fluctuates with seasonal changes in water levels. Populations of marsh fishes increase during extended periods of continuous flooding during the wet season. As marsh surface waters recede during the dry season, marsh fishes become concentrated in areas that hold water through the dry season. Concentrated dry season assemblages of marsh fishes are more susceptible to predation and provide an important food source for wading birds (USACE 1999).

Within the Greater Everglades, numerous sport and larger predatory fishes occur in deeper canals and sloughs. Common species include largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), redear sunfish (*Lepomis microlophus*), black crappie (*Pomoxis nigromaculatus*), Florida gar (*Lepisosteus platyrhincus*), threadfin shad (*Dorosoma petenense*), gizzard shad (*Dorosoma cepedianum*), yellow bullhead (*Ameiurus natalis*), white catfish (*Ameiurus catus*), bowfin (*Amia calva*), and tilapia (*Tilapia spp.*) (USACE 1999). Larger fishes are an important food source for wading birds, alligators, otters, raccoons, and mink.

The freshwater wetland complex supports a diverse assemblage of reptiles and amphibians. Common amphibians include the greater siren (*Siren lacertina*), Everglades dwarf siren (*Pseudobranchius striatus*), two-toed amphiuma (*Amphiuma means*), pig frog (*Rana grylio*), southern leopard frog (*Rana sphenoccephala*), Florida cricket frog (*Acris gryllus*), southern chorus frog (*Pseudacris nigrita*), squirrel tree frog (*Hyla squirela*), and green tree frog (*Hyla cinerea*) (USACE 1999). Amphibians represent an important forage base for wading birds, alligators, and larger predatory fishes (USACE 1999).

Common reptiles of freshwater wetlands include the American alligator (*Alligator mississippiensis*), snapping turtle (*Chelydra serpentina*), striped mud turtle (*Kinosternon bauri*), mud turtle (*Kinosternon subrubrum*), cooter (*Chrysemys floridana*), Florida chicken turtle (*Deirochelys reticularia*), Florida softshell turtle (*Trionyx ferox*), water snake (*Natrix sipedon*), green water snake (*Natrix cyclopion*), mud snake (*Francia abacura*), and Florida cottonmouth (*Agkistrodon piscivorus*) (USACE 1999).

The alligator was historically most abundant in the peripheral Everglades marshes and freshwater mangrove habitats, but is now most abundant in canals and the deeper slough habitats of the central Everglades. Drainage of peripheral wetlands and increasing salinity in mangrove wetlands as a result of

decreased freshwater flows has limited the occurrence of alligators in these habitats (Mazzotti and Brandt 1994).

The freshwater wetlands of the Everglades are noted for their abundance and diversity of colonial wading birds. Common wading birds include the white ibis (*Eudocimus albus*), glossy ibis (*Plegadis falcinellus*), great egret (*Casmerodius albus*), great blue heron (*Ardea herodias*), little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), green-backed heron (*Butorides striatus*), cattle egret (*Bubulcus ibis*), black-crowned night heron (*Nycticorax nycticorax*), yellow-crowned night heron (*Nycticorax violacea*), roseate spoonbill (*Ajaia ajaja*), and wood stork (*Mycteria americana*) (USACE 1999). The number of wading birds nesting in the Everglades has decreased by approximately 90 percent, and the distribution of breeding birds has shifted away from ENP into the WCAs (Bancroft et al. 1994). The WCAs support fewer numbers of breeding pairs with relatively lower reproductive success (USACE 1999). Water management practices and wetland losses are believed to be the primary cause of the declines (Bancroft et al. 1994).

Mammals that are well-adapted to the aquatic and wetland conditions of the freshwater marsh complex include the rice rat (*Oryzomys palustris natator*), round-tailed muskrat, and river otter (*Lutra canadensis*). Additional mammals that may utilize freshwater wetlands on a temporary basis include the white-tailed deer (*Odocoileus virginianus*), Florida panther (*Puma concolor coryi*), bobcat (*Lynx rufus*), and raccoon (*Procyon lotor*).

**6.1.3 Federally Listed Species**

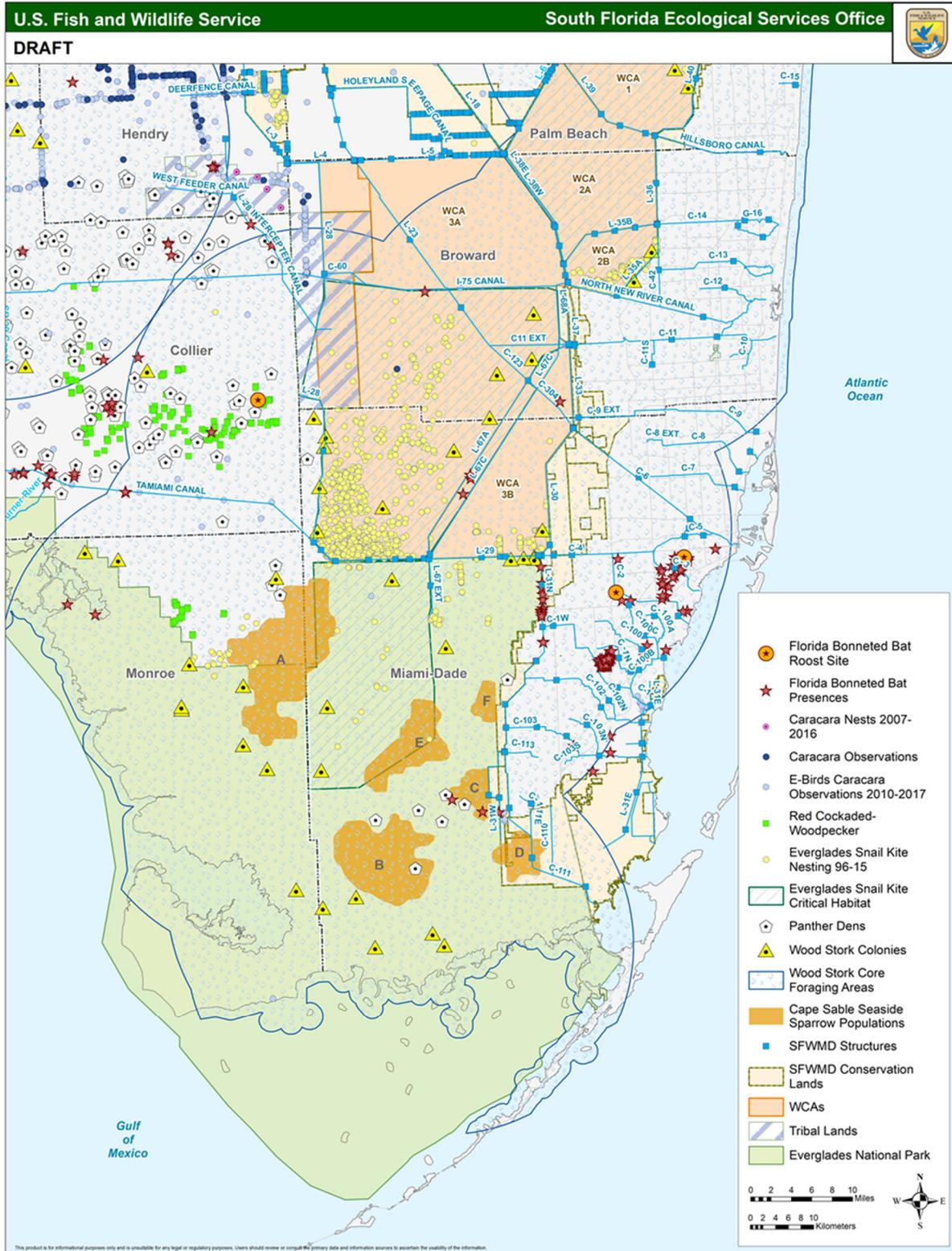
The Corps has coordinated the existence of federally listed species with the USFWS and with NMFS, as appropriate. Specifically, coordination with NMFS includes listed fish and sea turtles at sea. Coordination with USFWS includes other listed plants and animals. The Corps requested written confirmation of federally listed threatened and endangered species that are either known to occur or are likely to occur within the project area from the USFWS by correspondence dated November 20, 2017. A revised species list was provided by the USFWS through correspondence dated December 27, 2017. Thirty six federally listed threatened and endangered species under the purview of the USFWS are either known to exist or potentially exist within the action area. This includes one candidate species. Effects determinations are listed in **TABLE 3**. Many of these species have been previously affected by habitat impacts resulting from wetland drainage, alteration of hydroperiod, wildfire and water quality degradation.

**TABLE 3. STATUS OF FEDERALLY THREATENED AND ENDANGERED SPECIES UNDER USFWS' JURISDICTION WITH THE POTENTIAL TO OCCUR WITHIN THE CEPP SOUTH ACTION AREA AND THE CORPS' EFFECTS DETERMINATION (E: ENDANGERED; T: THREATENED; SA: SIMILARITY OF APPEARANCE; CH: CRITICAL HABITAT, C: CANDIDATE SPECIES)**

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
<b>Mammals</b>					
Florida panther	<i>Puma concolor coryi</i>	E	X		
Florida manatee	<i>Trichechus manatus latirostris</i>	E, CH	X		

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
Florida bonneted bat	<i>Eumops floridanus</i>	E	X		
<b>Birds</b>					
Cape Sable seaside sparrow	<i>Ammodramus maritimus mirabilis</i>	E, CH		X	
Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	E, CH		X	
Piping plover	<i>Charadrius melodus</i>	T			X
Red-cockaded woodpecker	<i>Picoides borealis</i>	E			X
Roseate tern	<i>Sterna dougallii</i>	T			X
Wood stork	<i>Mycteria americana</i>	T		X	
<b>Reptiles</b>					
American Alligator	<i>Alligator mississippiensis</i>	T, SA	X		
American crocodile	<i>Crocodylus acutus</i>	T, CH	X		
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	X		
Gopher tortoise	<i>Gopherus polyphemus</i>	C			X
<b>Invertebrates</b>					
Bartram's hairstreak butterfly	<i>Strymon acis bartrami</i>	E, CH	X		
Florida leafwing butterfly	<i>Anaea troglodyta floralis</i>	E, CH	X		
Miami blue butterfly	<i>Cyclargus thomasi bethunebakeri</i>	E			X
Schaus swallowtail butterfly	<i>Heraclides aristodemus ponceanus</i>	E			X
Stock Island tree snail	<i>Orthalicus reses</i> (not incl. <i>nesodryas</i> )	T			X
<b>Plants</b>					
Crenulate lead plant	<i>Amorpha crenulata</i>	E			X
Deltoid spurge	<i>Chamaesyce deltoidea</i> spp. <i>deltoidea</i>	E			X
Garber's spurge	<i>Chamaesyce garberi</i>	T	X		

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
Okeechobee gourd	<i>Cucurbita okeechobensis</i> ssp. <i>okeechobensis</i>	E			X
Small's milkpea	<i>Galactia smallii</i>	E			X
Tiny polygala	<i>Polygala smallii</i>	E			X
Big pine partridge pea	<i>Chamaecrista lineata</i> var. <i>keyensis</i>	E			X
Blodgett's silverbush	<i>Argythamnia blodgettii</i>	T	X		
Cape Sable thoroughwort	<i>Chromolaena frustrata</i>	E, CH			X
Carter's small-flowered flax	<i>Linum carteri</i> var. <i>carteri</i>	E, CH			X
Everglades bully	<i>Sideroxylon reclintum</i> spp. <i>austrofloridense</i>	T	X		
Florida brickell-bush	<i>Brickellia mosieri</i>	E, CH			X
Florida bristle fern	<i>Trichomanes punctatum</i> spp. <i>floridanum</i>	E			X
Florida pineland crabgrass	<i>Digitaria pauciflora</i>	T	X		
Florida prairie clover	<i>Dalea carthagenesis</i> <i>floridana</i>	E	X		
Florida semaphore cactus	<i>Consolea corallicola</i>	E, CH			X
Pineland sandmat	<i>Chaemaesyce deltoidea</i> <i>pinetorium</i>	T	X		
Sand flax	<i>Linum arenicola</i>	E			X



**FIGURE 5. LOCATION OF FEDERALLY THREATENED AND ENDANGERED SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE CEPP SOUTH ACTION AREA**

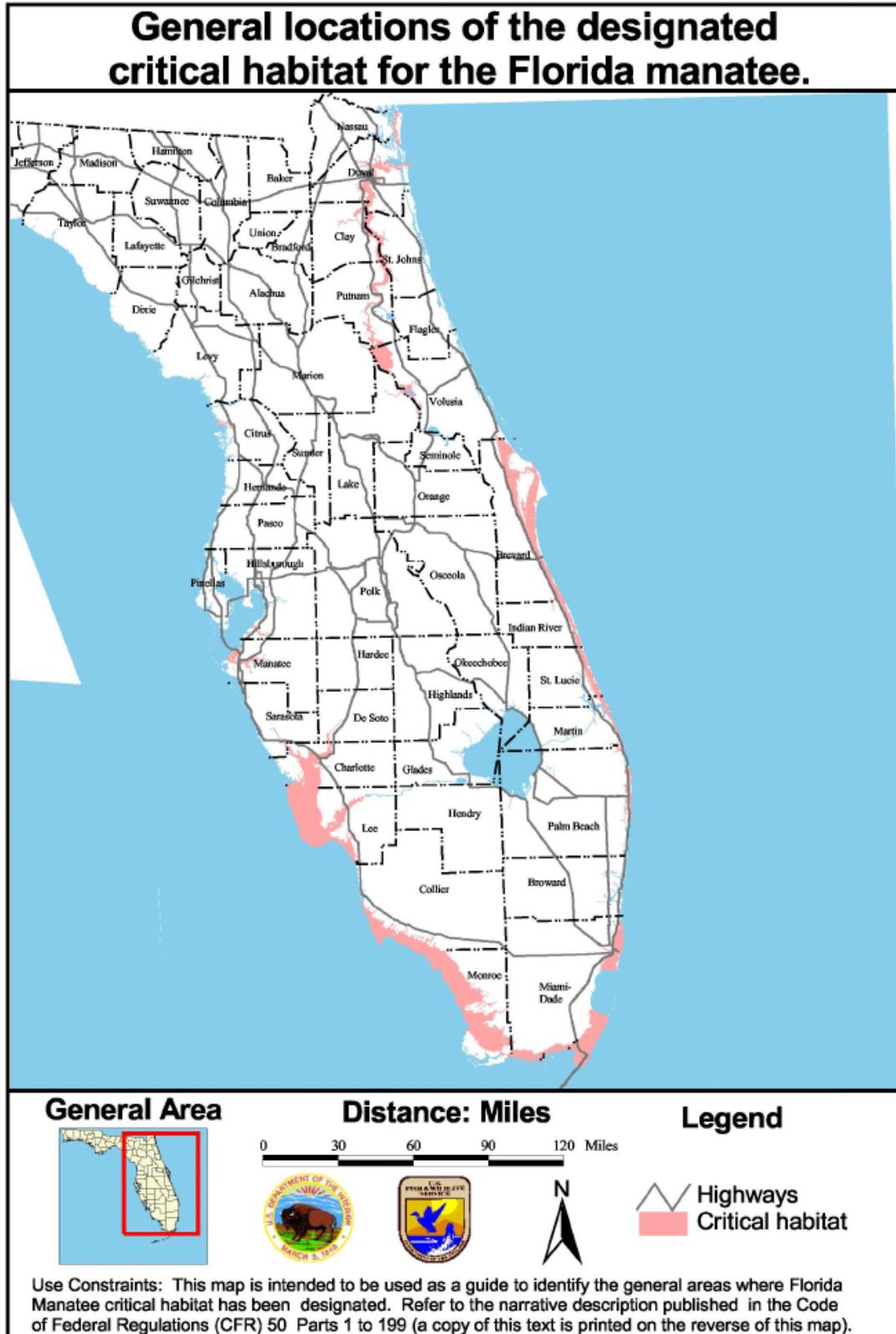
## 6.2 Designated Critical Habitat

In addition to threatened and endangered species, the action area also includes or is adjacent to designated critical habitat for several species in which a may affect not likely to adversely affect or a may affect determination was previously made within the 2013 CEPP BA (USACE 2013) or for which critical habitat was not previously consulted upon. This includes critical habitat for the Florida manatee, CSSS, snail kite, American crocodile, Bartram’s hairstreak butterfly, Florida leafwing butterfly, Carter’s small-flowered flax, Florida brickell-bush, and Florida semaphore cactus. Maps of critical habitat locations for these species are depicted in **FIGURE 6** through **FIGURE 11**.

In addition, the action area contains designated critical habitat for the green sea turtle, hawksbill sea turtle, leatherback sea turtle, and Johnson’s seagrass. Features identified in CEPP South have not been subsequently modified in a manner that causes an effect to listed species or critical habitat that is not considered within the 2013 Programmatic BO for CERP previously provided by NMFS. There has been no change in the operational intent of CEPP South that would require the need to re-initiate consultation with NMFS since completion of the prior resource agency consultation.

### 6.2.1 Florida Manatee Critical Habitat

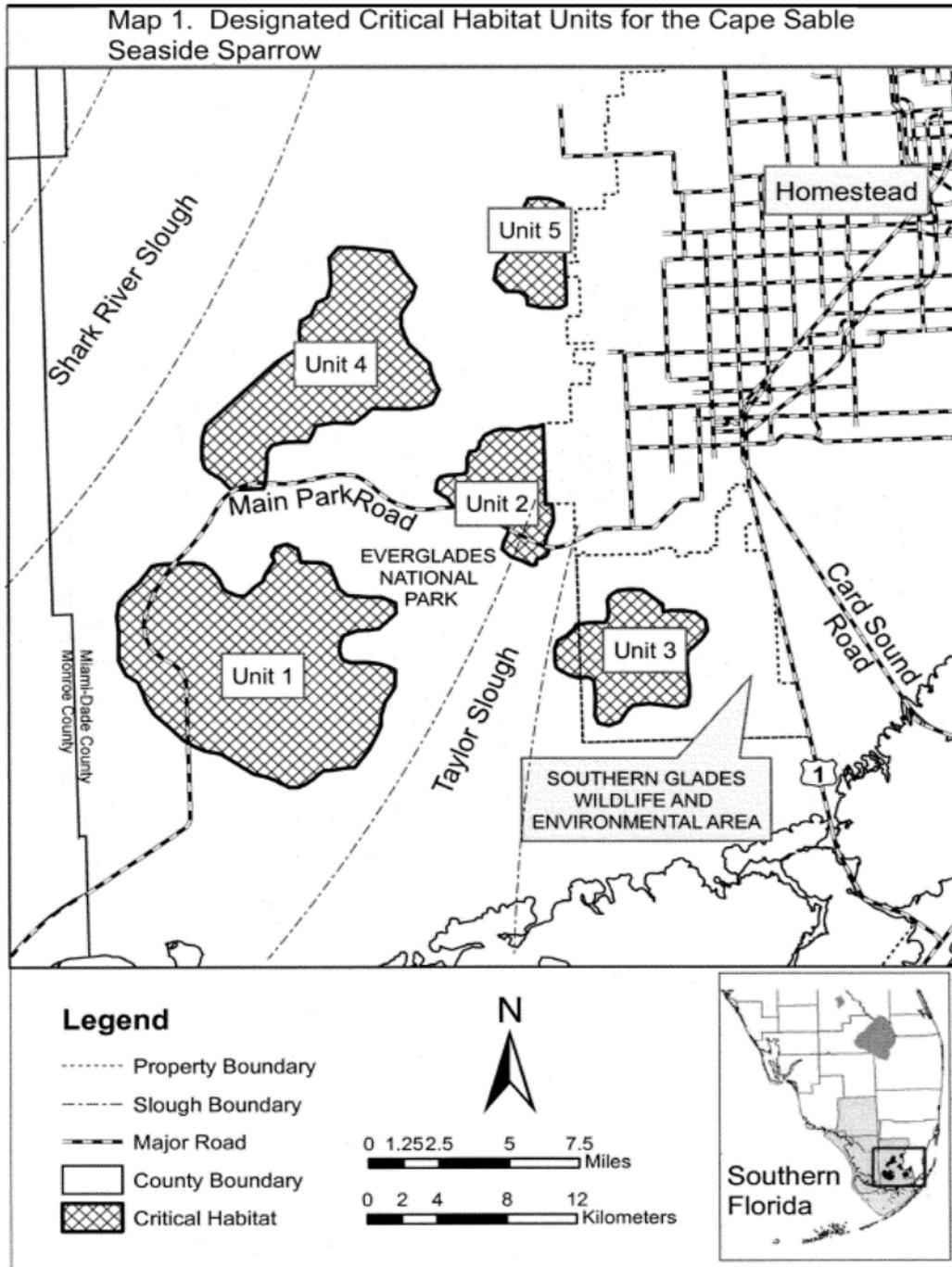
Critical habitat was designated for the Florida manatee (listed in that regulation as *Trichechus manatus*) on September 24, 1976 (41 FR 41914) with a final correction on September 27, 1977 (42 FR 47840-47845). Critical habitat in Florida that is in the CEPP South action area includes all U.S. territorial waters adjoining the coast and islands and all connected bays, estuaries, and rivers from Gordon’s Pass, near Naples, Collier County, southward to and including Whitewater Bay, Monroe County; all waters of Card, Barnes, Blackwater, Little Blackwater, Manatee, and Buttonwood Sounds between Key Largo, Monroe County, and the mainland of Dade County; Biscayne Bay, and all adjoining and connected lakes, rivers, canals, and waterways from the southern tip of Key Biscayne northward to and including Maule Lake, Dade County. **FIGURE 6** illustrates a map created from the physical description of the published designated critical habitat. Primary constituent elements for manatee critical habitat have not been defined.



**FIGURE 6. CRITICAL HABITAT FOR THE FLORIDA MANATEE**

### 6.2.2 Cape Sable Seaside Sparrow Critical Habitat

Designated critical habitat for the CSSS include areas of land, water, and airspace in the Taylor Slough vicinity of Collier, Dade, and Monroe counties, with the following components: those portions of ENP within T57S R36E, T57S R36E, T57S R37E, T58S R35E, T58S R36E, T58S R37E, T58S R35E, T58S R36E, T59S R35E, T59S R36E, T59S R37E. Areas outside of ENP within T55S R37E Sec. 36; T55S R38E Sec. 31, 32; T56S R37E Sec. 1, 2, 11-14, 23-26; T56S R38E Sec. 5-7, 18, 19; T57S R37E Sec. 5-8; T58S R38E Sec. 27, 29-32; T59S R38E Sec. 4 (CFR Vol. 72, No. 214 / 11-6-07). Reference **FIGURE 7**. Designated CSSS critical habitat within the CEPP South action area includes ENP.

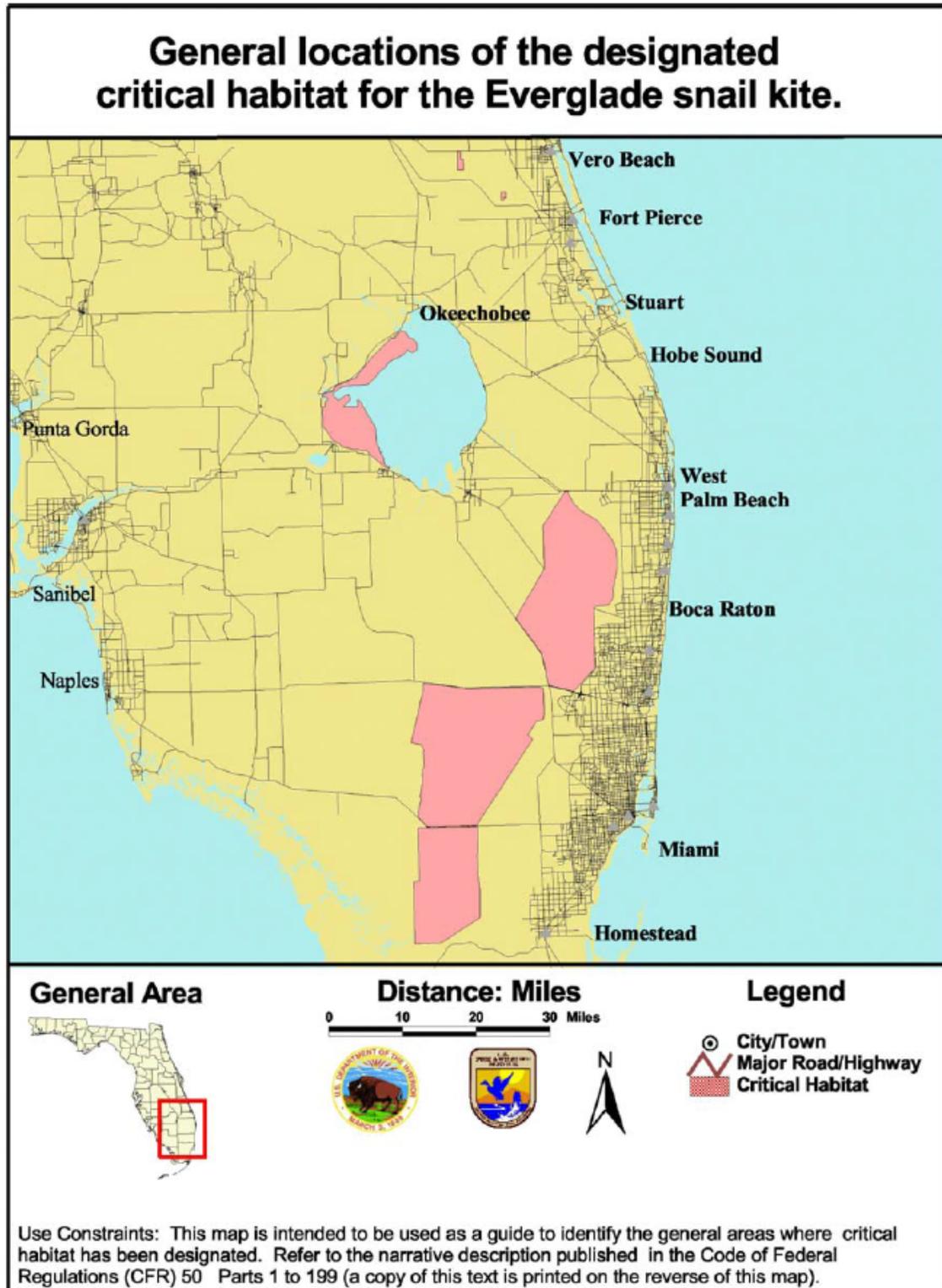


**FIGURE 7. CRITICAL HABITAT FOR THE CAPE SABLE SEASIDE SPARROW**

**6.2.3 Everglade Snail Kite Critical Habitat**

Critical habitat was designated for the Everglade Snail Kite on August 11, 1977 (41 FR 40685-40690) with a final correction on September 22, 1977 (42 FR 47840-47845). Critical habitat for the Everglade snail kite in Florida includes areas of land (predominantly marsh), water, and airspace, with the following components (Tallahassee Meridian): (1) St. Johns Reservoir, Indian River County: T33S R37E SW1/4 Sec.

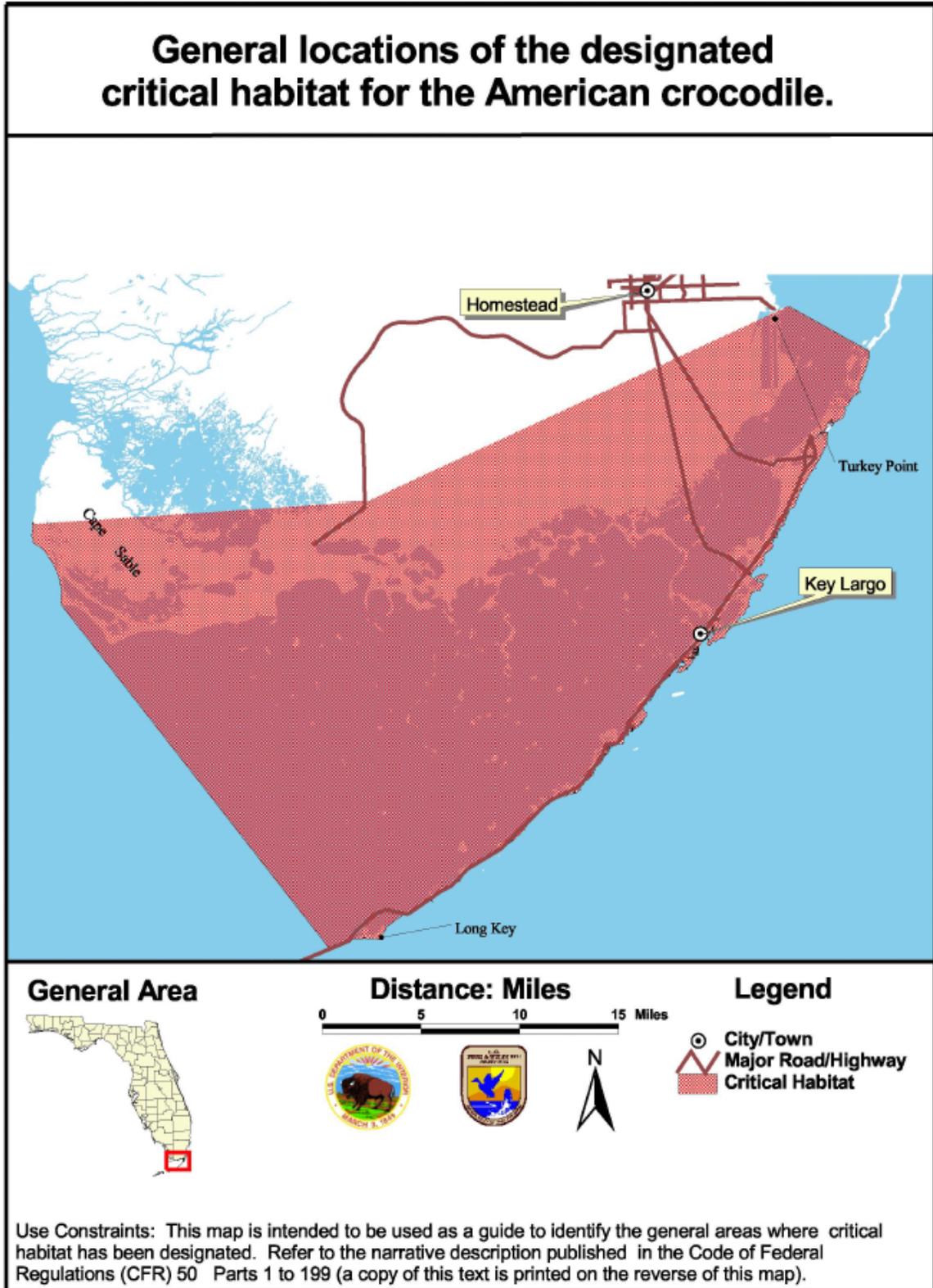
6, W1/2 Sec. 7, Sec. 18, Sec 19.; (2) Cloud Lake Reservoir, St. Lucie County; T34S R38E S1/2 Sec. 16, N1/2 Sec. 21; (3) Strazulla Reservoir, St. Lucie County; T34S R38E SW1/4 Sec. 21; (4) western parts of Lake Okeechobee, Glades and Hendry Counties, extending along the western shore to the east of the levee system and the undiked high ground at Fisheating Creek, and from the Hurricane Gate at Clewiston northward to the mouth of the Kissimmee River, including all the *Elocharis* flats of Moonshine Bay, Monkey Box, and Observation Shoal, but excluding the open water north and west of the northern tip of Observation Shoal, north of Monkey Box, and east of Fisheating Bay; (5) Loxahatchee National Wildlife Refuge (WCA 1), Palm Beach County, including Refuge Management compartments A, B, C, and D, and all of the main portion of the Refuge as bounded by levees L-7, L-39, and L-40; (6) WCA 2A, Palm Beach and Broward Counties, as bounded by levees L-6, L-35B, L-36, L-38, and L-39; (7) WCA 2B, Broward County, as bounded by levee L-35, L-35B, L-36, and L-38; (8) WCA 3A, Broward and Miami-Dade Counties, as bounded by Florida Highway 84. Levees L-68A, L-67A (north of Miami Canal), and L-67C (south of Miami Canal). L-29 and L-28 and a line along the undiked northwestern portion of the area; (9) that portion of ENP, Miami-Dade County, within the following boundary; beginning at the point where ENP meets Florida Highway 94 in T54S R35 Sec. 20, thence eastward and southwest along the ENP boundary to the southwest corner of Sec. 2 in T58S R35E, thence westward along the south sides of Sec. 3, 4, 5, and 6 in T58S R35E to the Miami-Dade-Monroe County line, thence northward along the Miami-Dade-Monroe County line to the ENP boundary, thence eastward and northward along the ENP boundary to the point of beginning. Reference **FIGURE 8**. Primary constituent elements for snail kite critical habitat have not been defined.



**FIGURE 8. CRITICAL HABITAT FOR THE EVERGLADE SNAIL KITE**

#### **6.2.4 American Crocodile Critical Habitat**

Critical habitat was designated for the American crocodile on September 24, 1976 (41 FR 41914) with a final correction on September 27, 1977 (42 FR 47840-47845). Critical habitat for the American crocodile within Florida includes all land and water within the following boundary: Beginning at the easternmost tip of Turkey Point, Dade County, on the coast of Biscayne Bay; then southeastward along a straight line to Christmas Point at the southernmost tip of Elliott Key; then southwestward along a line following the shores of the Atlantic Ocean side of Old Rhodes Key, Palo Alto Key, Angelfish Key, Key Largo, Plantation Key, Windley Key, Upper Matecumbe Key, Lower Matecumbe Key, and Long Key; then to the westernmost tip of Middle Cape; then northward along the shore of the Gulf of Mexico to the north side of the mouth of Little Sable Creek; then eastward along a straight line to the northernmost point of Nine-Mile Pond; then northeastward along a straight line to the point of beginning. Reference **FIGURE 9**.



**FIGURE 9. CRITICAL HABITAT FOR THE AMERICAN CROCODILE**

### 6.2.5 Bartram's Hairstreak Butterfly and Florida Leaf Wing Butterfly Critical Habitat

Critical habitat was designated for Bartram's hairstreak butterfly and the Florida leaf wing butterfly on August 12, 2014 (79 FR 47183). Critical habitat for the Bartram's hairstreak butterfly consists of seven units consisting of 4,670 hectares (11,539 acres) in Miami-Dade and Monroe Counties. The seven units are: (1) BSHB1 ENP Miami-Dade County; (2) BSHB2 Navy Wells Pineland Preserve, Miami-Dade County; (3) BSHB3 Camp Owaissa Bauer, Miami-Dade County; (4) BSHB4 Richmond Pine Rocklands, Miami-Dade County; (5) BSHB5 Big Pine Key, Monroe County; (6) BSHB6 No Name Key, Monroe County; (7) BSHB7 Little Pine Key, Monroe County. Reference **FIGURE 10**. Critical habitat for the Florida leafwing butterfly consists of four units consisting 4,273 hectares (10,561 acres) in Miami-Dade and Monroe Counties. The four units are: (1) FLB1 ENP Miami-Dade County; (2) FLB2 Navy Wells Pineland Preserve, Miami-Dade County; (3) FLB3 Richmond Pine Rocklands, Miami-Dade County; and (4) FLB4 Big Pine Key, Monroe County. Reference **FIGURE 11**. Designated critical habitat for the Florida leafwing butterfly occurs entirely within Bartram's hairstreak units BSHB1, BSHB2, BSHB4, and BSHB5. Five of the seven critical habitat units (BSHB1-BSHB5) were identified as being occupied by the Bartram's hairstreak butterfly when critical habitat was designated. One of the four critical habitat units (FLB1) was identified as being occupied by the Florida leaf wing butterfly when critical habitat was designated. Primary constituent elements for Bartram's hairstreak butterfly and the Florida leaf wing butterfly have been defined and are further described in 79 FR 47813.

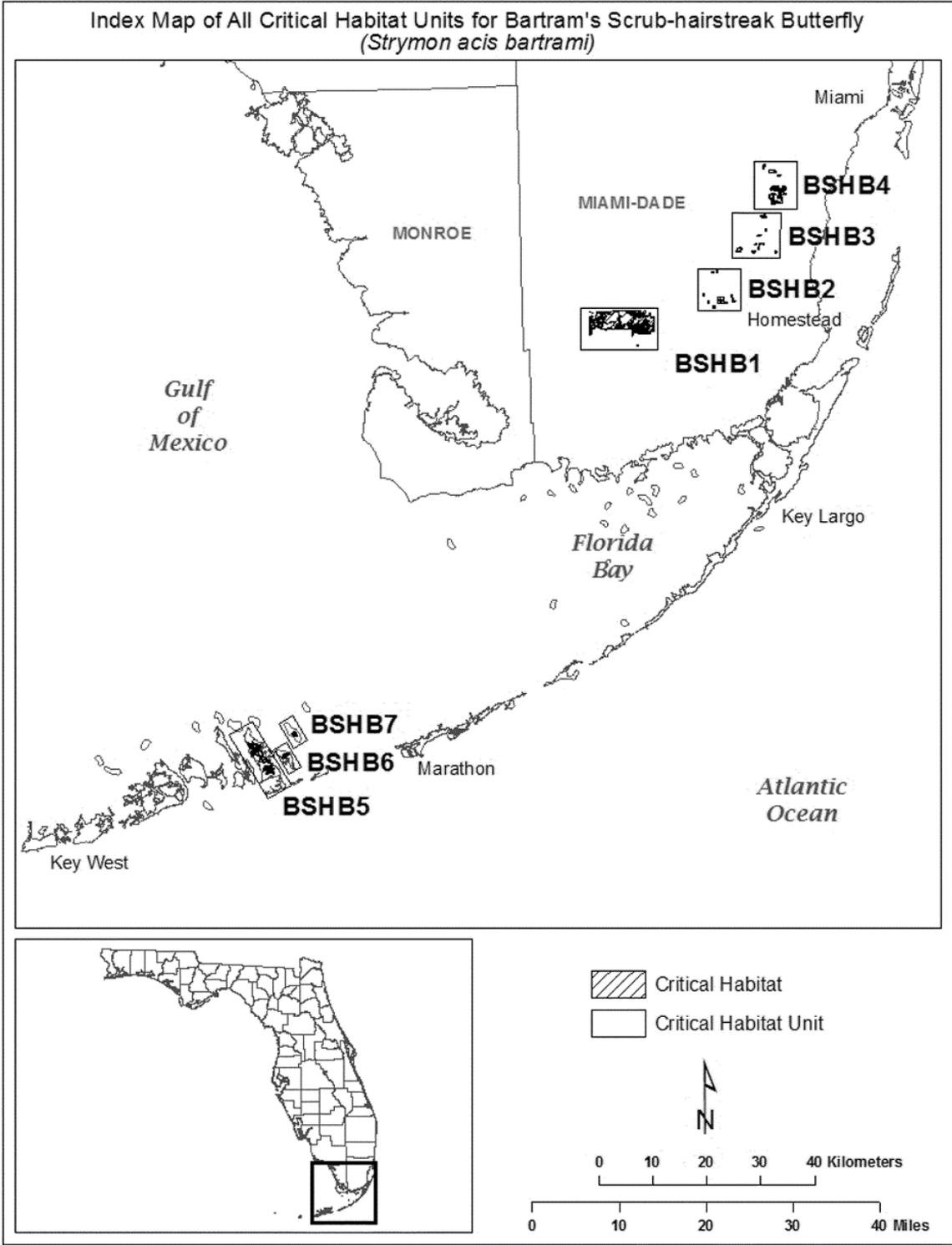
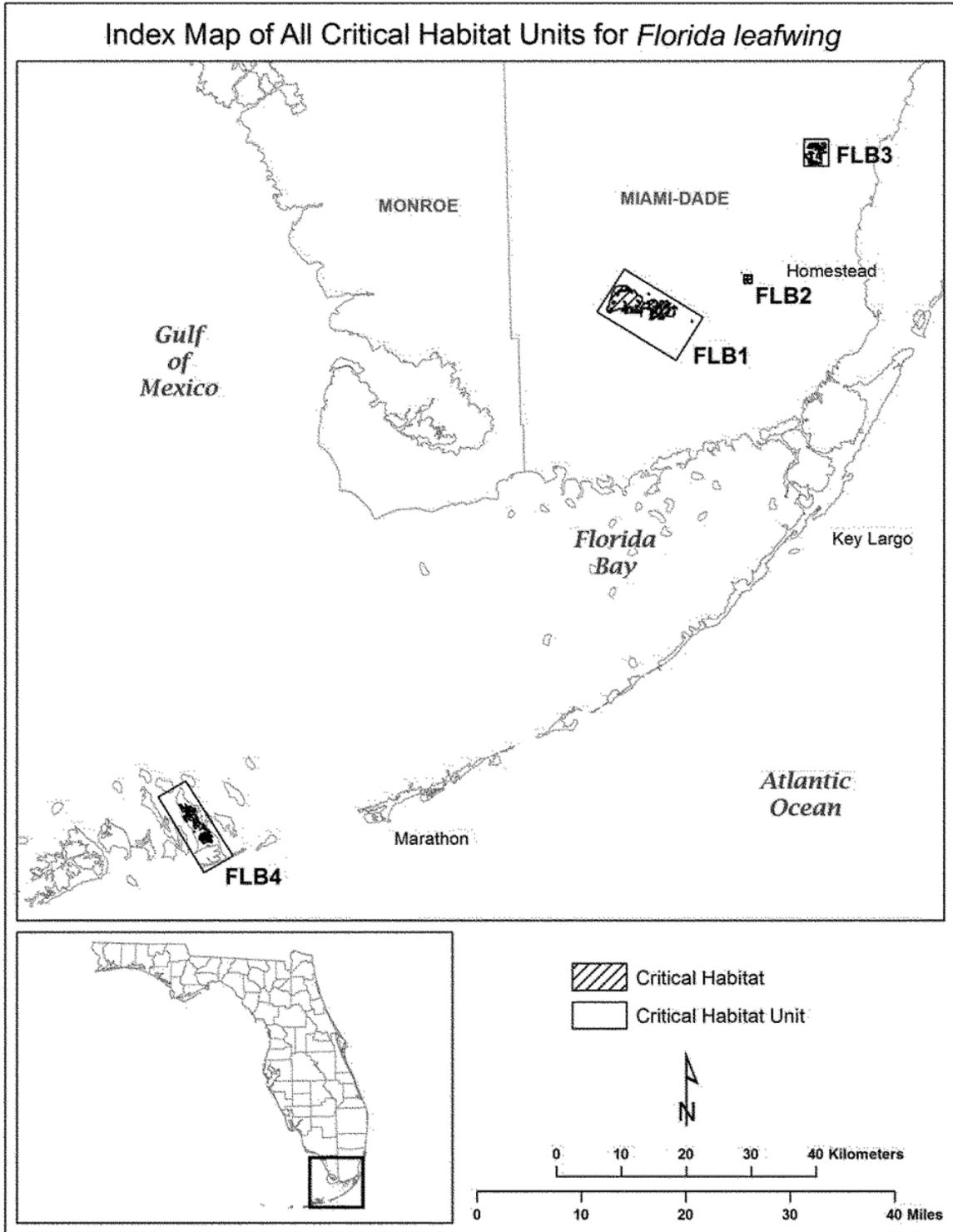


FIGURE 10. CRITICAL HABITAT FOR BARTRAM'S HAIRSTREAK BUTTERFLY



**FIGURE 11. CRITICAL HABITAT FOR THE FLORIDA LEAFWING BUTTERFLY**

## 6.3 Effects Determinations

### 6.3.1 “No Effect” Determination

The Corps reaffirms its “No Effect” determinations from the 2018 CEPP South BA for Federally threatened or endangered species as shown in **TABLE 3**; however changes have occurred that require a revision to the determination for the deltoid spurge, Small’s milkpea, and tiny polygala as discussed below.

The Florida bristle fern has the potential to occur within the pine rocklands of ENP on Long Pine Key, however it has not been observed in many years; therefore the Corps reaffirms its “No Effect” determination for this species as well. However proposed critical habitat for the Florida bristle fern in ENP is in review and expected to be published in early 2020 (USFWS South Florida Ecological Services Field Office Personnel Communication). The Corps will re-initiate consultation with the USFWS, if appropriate, at the time of final listing.

#### 6.3.1.1 Deltoid Spurge, Small’s Milkpea, and Tiny Polygala and “No Effect” Determination

Pine rocklands are the primary habitat for deltoid spurge, Small’s milkpea, and tiny polygala. This community occurs on areas of relatively high elevation and consequently, has been subject to intense development pressure. In addition, pine rocklands are a fire-maintained community and require regular burns to maintain the open shrub/herbaceous stratum and to control hardwood encroachment (Gunderson 1997). Fire suppression, fragmentation, invasion by exotic species, and a lowered water table have negatively affected the remaining tracts of pine rocklands, prompting the listing of these species under the ESA (USFWS 1999).

The Deltoid spurge is a small perennial herb with many wiry stems radiating from a taproot. The herb forms mats or tufts up to 6 inches long over exposed limestone. Leaves are 0.25 inches long and are thick and rounded-triangular (deltoid) in shape. Leaves are opposite, smooth or sometimes hairy below, bright green, and have slightly rolled-under margins. Flowers are solitary and are in cup-like structures with tiny, petal-like glands (USFWS 1999). The Deltoid spurge is endemic to the pine rocklands of the Miami rock ridge and occurs only in Miami Dade County, Florida. The plant is historically known to occur in pine rocklands from the Goulds area north to the center of the city of Miami. The northern portion of its range has been completely modified by urban expansion (USFWS 1999). Results of a project to map the extant pine rockland habitat indicate that currently, the species is known to remain on 14 public lands (12 county, 1 State, 1 Federal) an undetermined number of private lands from southern Miami to Homestead (USFWS 2010b). The deltoid spurge tends to occur in areas with an open shrub canopy, exposed limestone, and minimal litter (pine needles, leaves, and other organic materials). It is most often found growing at the edges of sand pockets with plants growing both in sand (sometimes in association with tiny polygala) and on limestone. The survival and recovery of the Deltoid spurge is threatened by habitat loss from urban development, fire suppression, and exotic plant infestation (USFWS 1999).

The tiny polygala was listed as threatened by the USFWS on July 8, 1985 (50 FR 29345-29349). The tiny polygala is an erect short-lived herbaceous species. The tiny polygala forms a roseatte and grows no more than 8 cm tall. Flowers are small and numerous in a crowded head at the top of the stem. The plant contains 1-4 usually unbranched stems. Leaves are 0.5 inches wide and 2 inches long often taller than the flower heads, lance shaped and slightly wider toward the tip. Most plants germinate and die within one year. Seedlings can be observed from late October through April, but are most typically seen from December to February. Flowers appear throughout the year with a peak during the summer (USFWS

1999). The plant occurs in four distinct habitats with similar characteristics; pine rockland, scrub, high pine and open coastal spoil. All of these habitats are dry and prone to periodic natural fire. Within these habitats the plant requires high light levels and open sand with little to no organic litter accumulation. Prior to 1995, the tiny polygala was thought to be a local endemic of pine rocklands and scrub in Miami-Dade and Broward counties (the Miami and Fort Lauderdale metro areas, respectively); however extensive surveys conducted expanded the known range into northern Palm Beach and south central Martin Counties (USFWS 2010c). The plant is currently known to occur at eight sights within Miami-Dade, Palm Beach, Martin and St. Lucie Counties with the highest density of sites located in southern Miami-Dade County (USFWS 2010c). The survival and recovery of tiny polygala is threatened by habitat loss from urban development, fire suppression, and exotic plant infestation.

The small's milkpea is a small, trifoliolate, perennial legume with small, purple flowers. The stems are grayish and grow up to 2 m long. The 1 to 2.2 cm long leaflets are broadly ovate to elliptic. Small's milkpea is a perennial legume that usually flowers during the summer months. The plant occurs in the pine rocklands of southern Miami-Dade County. At the time of its listing, Small's milkpea was only known at two sites near Homestead in Miami-Dade County. A 1994 survey found small's milkpea at seven additional sites on public land: Seminole Wayside, Navy Wells, Sunny Palms, Pine Island, Ned Glenn, Goulds, and the HRS site in Florida City/Miami-Dade County Park and Recreation Department is actively managing five of the six publicly owned sites. Small's milkpea was also found in small numbers on privately owned pine rockland fragments (USFWS 1999).

The Corps has determined that the Proposed Action would have no effect on the deltoid spurge, Small's milkpea, and tiny polygala. In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP may affect, but is not likely to adversely affect these species. Concurrence on this determination was received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS; however, based on the current distribution of these species the Corps has determined a no effect determination as these species lie outside of the action area. These species no longer occur in ENP.

### **6.3.2 "May Affect" Determination**

The Corps reaffirms its "May Affect Not Likely to Adversely Affect" determinations from the 2018 CEPP South BA for Federally threatened or endangered species as shown in **TABLE 3**; however changes have occurred that require a revision to the determination for the Bartram's hairstreak butterfly, Florida leafwing butterfly, Everglades bully, Florida pineland crabgrass, Florida prairie clover, pineland sandmat, and Blodgett's silverbush, as discussed below. Effects determinations for the Florida panther, the Florida manatee, Florida bonneted bat, American alligator, American crocodile, Eastern indigo snake, and Garber's spurge remain consistent with the 2018 CEPP South BA; however additional information has been included, as detailed below with respect to planned implementation of components of the 2014 CEPP AMMP as part of the construction contracts for CEPP South. The Corps is requesting formal consultation in this 2020 CEPP South BA for the Everglade snail kite and its designated critical habitat, the endangered CSSS and its designated critical habitat, and the threatened wood stork.

#### **6.3.2.1 Florida Panther and "May Affect Not Likely to Adversely Affect" Determination**

The Florida panther was once the most widely distributed mammal (other than humans) in North and South America. One of 30 cougar subspecies, Florida panther is tawny brown on the back and pale gray underneath, with white flecks on the head, neck and shoulder. Male panthers weigh up to 130 pounds

and females reach 70 pounds. Preferred habitat consists of cypress swamps, pine and hardwood hammock forests. The main diet of the Florida panther consists of white-tailed deer, sometimes wild hog, rabbit, raccoon, armadillo and birds. Florida panthers are solitary, territorial, and often travel at night. Males have a home range of up to 400 square miles and females about 50 to 100 square miles. Female panthers reach sexual maturity at about three years of age. Mating season is December through February. Gestation lasts about 90 days and females bear two to six kittens. Juvenile panthers stay with their mother for about two years. Females do not mate again until their young have dispersed. The main survival threats to the Florida panther include habitat loss due to human development and population growth, collision with vehicles, parasites, feline distemper, feline alicivirus (an upper respiratory infection), and other diseases.

Lands have been designated for panther conservation (**FIGURE 12**). These lands include the Panther focus Area located in central and southern Florida. Florida panthers have used, and are likely to continue to use, the action area as portions of home ranges, or for dispersal. Florida panthers presently inhabit lands in ENP adjacent to the Southern Glades, and radio tracking studies have shown that they venture into the Southern Glades on occasion during post-breeding dispersion (**FIGURE 13**). Florida panthers do not use the open water areas of the WCA and ENP on a regular basis. **FIGURE 14** displays Florida panther telemetry data from February of 1981 through June of 2017 obtained from the Florida Fish and Wildlife Conservation Commission (FWC 2018). They may, during periods of low water, hunt on tree islands where prey may be present. They have been documented crossing SRS as well, but primarily use the higher elevations within ENP. Since potentially suitable habitat occurs within the action area, increased water deliveries to WCA 3B and ENP could affect Florida panther habitat. The 2013 CEPP BA (referenced in the 2018 CEPP BA) noted that CEPP has the potential to affect both the Primary and Secondary Zones (**FIGURE 12**) through degradation of levees, backfilling of canals, and degradation of spoil mounds and creation of the Blue Shanty Levee. Reference Section 6.2.5 of the 2013 CEPP BA for additional information. **TABLE 4** shows the CEPP South project features that will affect primary and secondary panther habitat either through degradation of spoil mounds, levees, backfilling of canals, and creation of the Blue Shanty levee. Also included are number of acres lost, acres created and the panther habitat unit value. The 2014 CEPP PIR/EIS and AMMP recommended management options to fill agricultural ditches in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal and to move water through the Tamiami Trail western bridge. Reference the red circle in **FIGURE 3** for the location of the approximate 4.0 mile east-west agricultural ditch to be backfilled under CEPP South. Approximately 1.56 miles are expected to be backfilled under Contract 1. **TABLE 4** has been updated to include complete backfill of the east-west agricultural ditch and removal of spoil mounds along the northwestern side of the L-67A canal in the proximity of the S-631, S-632, and 6-333 structures referenced in the 2014 PIR/EIS, but not previously included in this table in the 2018 CEPP BA. Spoil mounds (assumed 3 spoil mounds per structure) will be removed to facilitate sheetflow connectivity with the WCA 3A marsh. The removal of 3 spoil mounds at each structure, equates to an approximate footprint of 10 acres. Total acres lost are equivalent to the total acres created for those features that fall under CEPP South; however the total panther habitat value increased from 1,134.1 to 1,796. Reference **TABLE 4**.

**TABLE 4. PANTHER HABITAT IMPACTS FOR CEPP SOUTH FEATURES BASED ON PANTHER HABITAT UNIT VALUES\* INCLUDING IMPLEMENTATION OF AMMP COMPONENTS**

Project Feature	Zone of Impacted Lands	Acres Lost	Panther Habitat Unit Value	Total HUs	Acres Created	Panther Habitat Unit Value	Total HUs
L-67A Spoil Mound Degrade (assumed 3 spoil mounds per S-631, S-632, and S-633) (barren/disturbed to marsh)	Primary	10	3	30	10	4.7	47
L-67C Gap Degrade (barren/disturbed to marsh)	Primary	9	3	27	9	4.7	42.3
L-67C Flowway Degrade (barren/disturbed to marsh)	Primary	64	3	192	64	4.7	300.8
L-29 Degrade (barren/disturbed to marsh)	Primary	46	3	138	46	4.7	216.2
Blue Shanty Levee Creation (marsh/wet) prairie to barren/disturbed)	Primary	113	4.7	531.1	113	3	339
L-67 Extension Levee Degrade (barren/disturbed to marsh)	Primary	41	3	123	41	4.7	192.7
L-67 Extension Backfill (water to marsh)	Primary	104	0	0	104	4.7	488.8
Old Tamiami Trail Road Degrade (barren/disturbed to marsh)	Primary	31	3	93	31	4.7	145.7
East-West Agricultural Ditch Backfill (water to marsh)	Primary	5	0	0	5	4.7	23.5
<b>Total</b>		<b>423</b>	<b>22.7</b>	<b>1,134.1</b>	<b>423</b>	<b>40.6</b>	<b>1,796</b>

\* Reference Table 6-2 of the 2013 CEPP BA for a complete listing of CEPP features proposed within the 2014 CEPP Final PIR/EIS and the associated acres lost (USACE 2013). The above table reflects only those features included in CEPP PPA South and is therefore reflective of the Proposed Action.

The Proposed Action is expected to benefit WCA 3B and ENP by increasing flows to the area. This increase in hydroperiod is unlikely to significantly affect the higher elevations used by panthers as operations of

the CEPP South features are expected to be subject to current downstream constraints, consistent with ALTQ+ (COP Preferred Plan) which include maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. The L-29 canal stage is anticipated to be limited to below that identified within the 2014 Final CEPP PIR/EIS which assumed a maximum operating limit of 9.7 feet, NGVD. The hydrologic effects of the Proposed Action are expected to benefit existing wetlands within the action area. As lands within the CEPP South action area become restored to their more historic natural values, the improved forage base would result in greater use by the Florida panther utilizing these areas. Panther prey density is an important factor in evaluating panther habitat. The type of prey available to the panther affects the health and distribution of the panther, as well as its ability to breed and support young. Small mammals including raccoons and river otters would benefit from increased crayfish and small prey fish biomass in rehydrated areas within WCA 3B and ENP as a result of CEPP South. Implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA and 2018 CEPP BA; however CEPP South would likely show a reduced beneficial effect in WCA 3B and ENP as additional water (*i.e.* 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future.

Potential changes in hydrology within the action area for CEPP South will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins (Lake Okeechobee, Everglades Agricultural Area (EAA), WCA 1, and WCA 2). ALTQ+ increased overland flow, water depths and resulting hydroperiods in portions of ENP, including NESRS and Taylor Slough (USACE 2019). Under COP, the L-29 Canal stage is anticipated to be limited to 8.5 feet, NGVD consistent with the operational guidance defined in Appendix A of the 2020 COP EIS (refer to **Section 4**). Reference Section D.2.4.2 of the 2019 COP BA for a description of expected differences in water depths and hydroperiods under ALTQ+ in WCA 3 and ENP. Further detail is provided in Section D.2.6.2.1 of the 2019 COP BA and is incorporated by reference.

Based on this information, and the fact that Florida panther is a wide-ranging species with the majority of sightings west of the action area, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Florida panther, consistent with the determination provided in the 2018 CEPP South BA. Concurrence on this determination was received in correspondence dated December 21, 2018 from the USFWS.

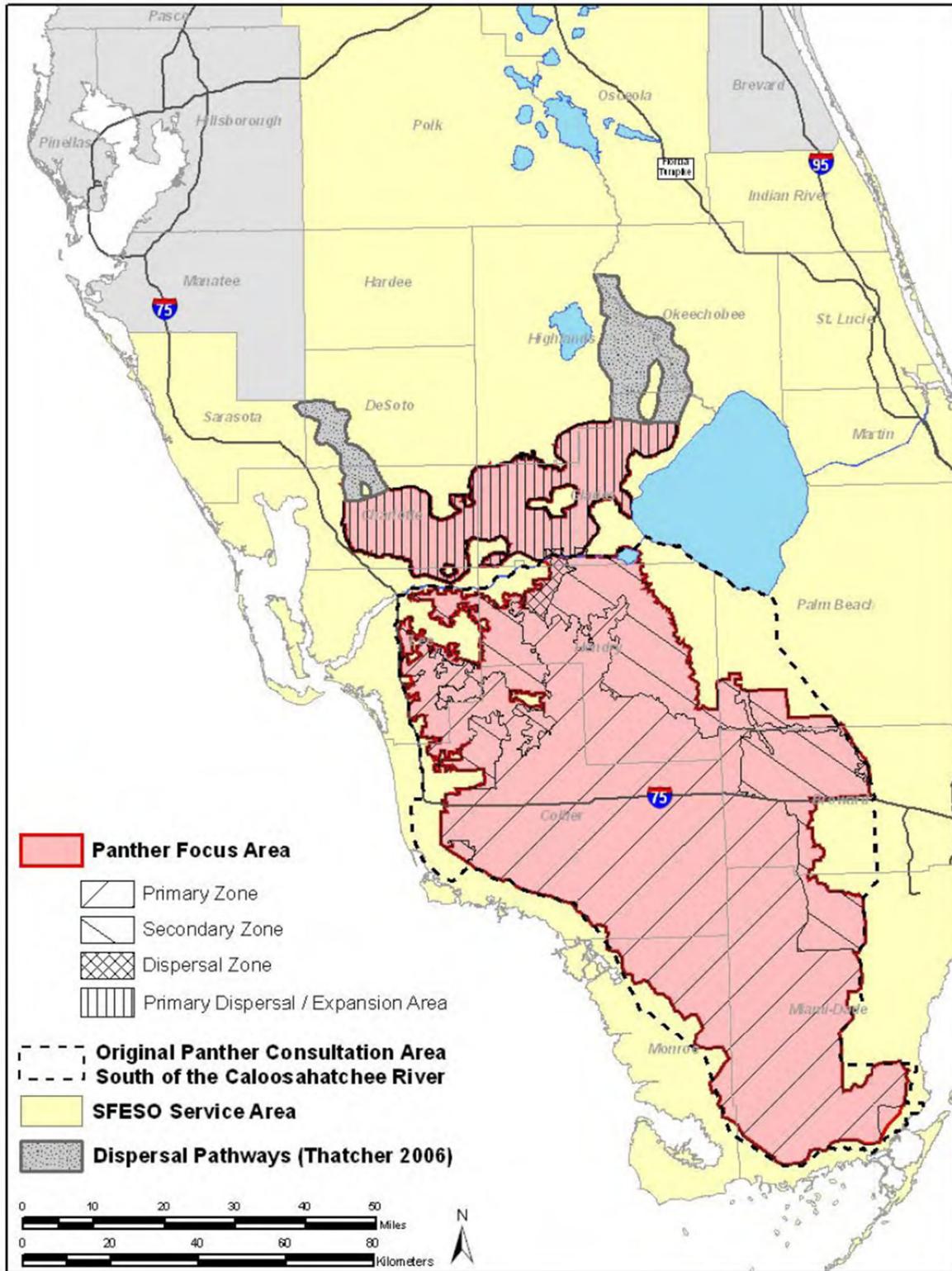
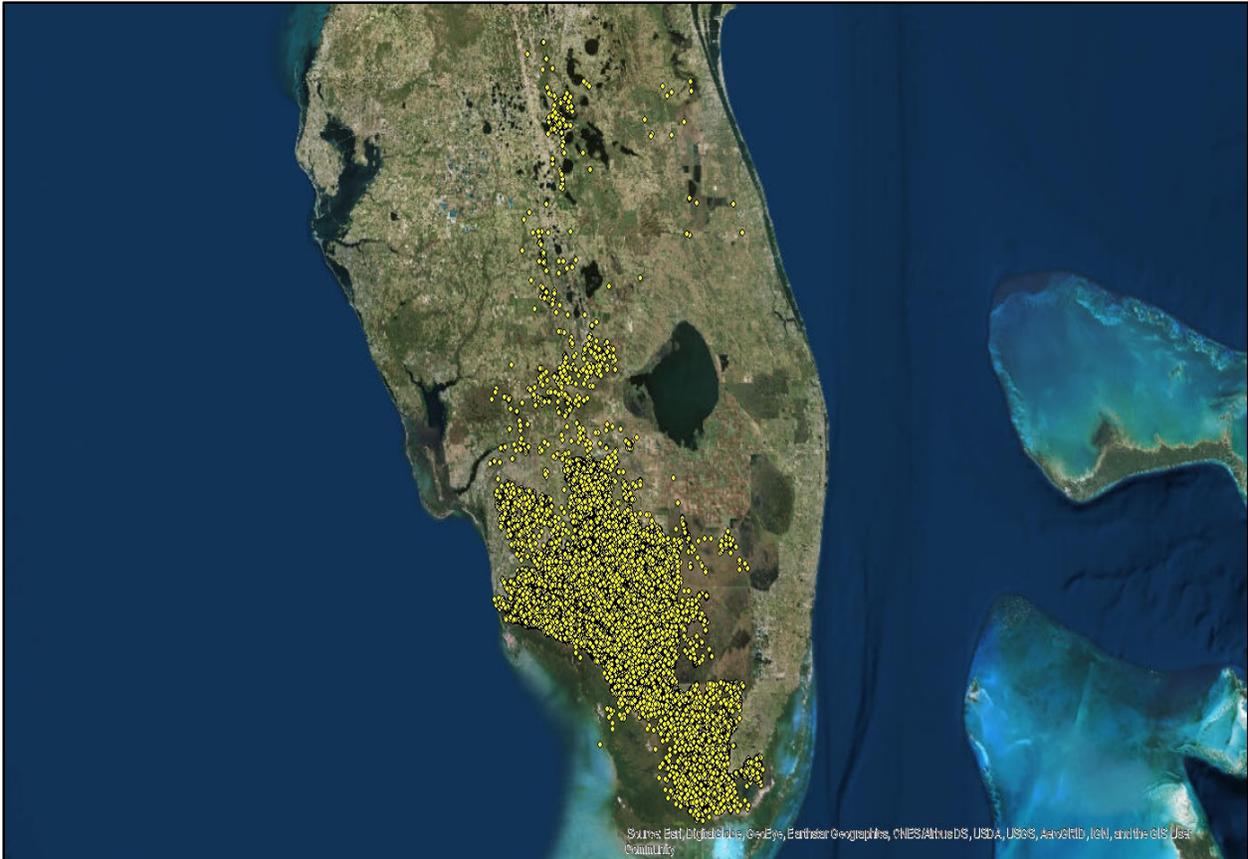


FIGURE 12. FLORIDA PANTHER ZONES IN SOUTH FLORIDA



**FIGURE 13. FLORIDA PANTHER TELEMTRY INFORMATION (1981-2017)**

### 6.3.2.2 Florida Manatee and Critical Habitat “May Affect Not Likely to Adversely Affect” Determination

The Florida manatee is a large, plant-eating aquatic mammal with a fusiform body that is compressed dorsoventrally and is grey to grey brown in color. Florida manatees live in that can be found in the shallow coastal waters, rivers, and springs of Florida. Florida manatees live in freshwater, brackish, and marine habitats, can move freely between salinity extremes. It can be found in both clear and muddy water. Because they are a subtropical species with little tolerance for cold, they remain near warm water sites in peninsular Florida during the winter. During periods of intense cold, Florida manatees will remain at these sites and will tend to congregate in warm springs and outfall canals associated with electric generation facilities. During warm interludes, Florida manatees move throughout the coastal waters, estuaries, bays, and rivers of both coasts of Florida and are usually found in small groups. During warmer months, Florida manatees may disperse great distances. Florida manatees have been sighted as far north as Massachusetts and as far west as Texas and in all states in between (Rathbun et al. 1982, Fertl et al. 2005). Water depths of at least three to seven feet (one to two meters) are preferred and flats and shallows are avoided unless adjacent to deeper water.

Over the past centuries, the principal sources of Florida manatee mortality have been opportunistic hunting by man and deaths associated with unusually cold winters. As of 2016, the Florida Fish and Wildlife Conservation Commission (FWC) reported 520 Florida manatee deaths that year, which is more than the total number of deaths reported in 2009 (429 deaths), related to the prolonged cold water

conditions in the winter of 2009-2010. Today, poaching is rare, but high mortality rates from human-related sources threaten the future of the species. In general, the largest single mortality factor is collision with boats and barges. Florida manatees also are killed in flood gates and canal locks, by entanglement or ingestion of fishing gear, and through loss of habitat and pollution.

Florida manatees have been observed in conveyance canals throughout the action area, and in adjacent nearshore seagrass beds throughout Florida Bay including all waters of Card, Barnes, Blackwater, Little Blackwater, Manatee and Buttonwood sounds. The extensive acreages of seagrass beds in Florida Bay provides important feeding areas for Florida manatees. Florida manatees also depend upon canals as a source of freshwater and resting sites. It is highly likely that Florida manatees also depend on the deep canals as a cold-weather refuge. The relatively deep waters of the canals respond more slowly to temperature fluctuations at the air/water interface than the shallow bay waters. Thus, the canal waters remain warmer than open bay waters during the passage of winter cold fronts.

The Florida manatee's critical habitat includes all waters of Card, Barnes, Blackwater, Little Blackwater, Manatee and Buttonwood sounds between Key Largo, Monroe County and mainland Miami-Dade County (**FIGURE 6**) Another component of designated critical habitat is defined as Biscayne Bay, and all adjoining and connected lakes, rivers, canals, and waterways from the southern tip of Key Biscayne northward to and including Maule Lake, Dade County. No specific primary or secondary constituent elements were included in the critical habitat designation. However, researchers agree that essential habitat features for Florida manatee include seagrasses for foraging, shallow areas for resting and calving, channels for travel and migration, warm water refuges during cold weather and freshwater for drinking.

The 2013 CEPP BA (and cross references in the 2018 CEPP BA) noted that improvements in seasonal inflow deliveries to Florida Bay and Biscayne Bay has the potential to improve conditions suitable for seagrass survival. Seagrasses within Florida Bay have long suffered from high salinities due to long-term reductions of freshwater flow. Increased freshwater flows to the coastal estuaries would improve salinity, therefore reducing stress on sea grasses that are important to foraging manatees. Reference Section 6.2.4 and of the 2013 CEPP BA for additional information (USACE 2013). Implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA and 2018 CEPP BA; however CEPP South would likely show a reduced beneficial effect in the southern estuaries as additional water (*i.e.* 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future. Furthermore, operations of the CEPP South features are expected to be subject to current downstream constraints, consistent with ALTQ+ (COP Preferred Plan), which include maintaining the required water levels in the residential and agricultural areas in southeastern Miami-Dade County. The L-29 Canal stage is anticipated to be limited to below that identified within the 2014 Final CEPP PIR/EIS which assumed a maximum operating limit of 9.7 feet, NGVD. The Proposed Action is not expected to result in significant adverse impacts to seagrasses within the coastal estuaries.

Potential changes in hydrology within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the proposed COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. ALTQ+ increased overland flow, water depths and resulting hydroperiods in portions of ENP, including NESRS and Taylor Slough (USACE 2019). Under COP, the L-29 Canal stage is anticipated to be limited to 8.5 feet, NGVD consistent with the operational guidance defined in Appendix A of the 2020 COP EIS (refer to **Section 4**). Reference Section D.2.6.2.2 of the 2019 COP BA for a description of expected differences in overland flow to Florida Bay and Biscayne Bay and resulting changes in salinity expected under ALTQ+ using the RECOVER salinity performance measure. ALTQ increased flows toward Florida Bay across Transect T23

relative to ECB19RR. This east west transect crosses southern Taylor Slough and the Northern ENP Panhandle, east of the slough. ALTQ increased average annual flows by 36,000 acre feet at this location. Table D.2-5 and Table D.2-6 in Section D.6.2.2 of the 2019 COP BA depicts the mean annual dry season and mean annual wet season salinities for ECB19RR in North Bay, East Bay, East Central Bay, Central Bay, South Bay, and West Bay. Decreases in mean wet salinity were small in all Florida Bay zones. For each zone, decreases in dry season salinity exceeded decreases in wet season salinity. The expected differences may be ecologically significant because they reflect long-term seasonal means and not short-term or even annual extremes (e.g., periods with hypersalinity). Also, the timing of lowered salinity, being more in the dry season, may be ecologically significant because salinity peaks with associated ecological damage are most common in the late dry season and early wet season if precipitation delays occur. Overall the differences in salinity were less than 5%.

The RECOVER salinity performance measure for the southern coastal systems does not currently extend past Florida Bay into Biscayne Bay and was therefore unavailable for an evaluation of this area in the 2019 COP BA. While ALTQ reduced overall flows to Biscayne Bay compared to ECB19RR, the reduction was accounted for entirely by changes to flow in the northern portion of Biscayne Bay which is receiving too much flow during storm events. Concurrently, ALTQ increased freshwater flow to southern Bay, the location of most of Biscayne National Park and CERP's Biscayne Bay Coastal Wetlands Project. This is an area with unnaturally high salinity and increased freshwater flow can yield ecological benefits for this region. Reference Table D.2-8 of the 2019 COP BA for total average annual flow (thousand acre feet) from canals to portions of Biscayne Bay over the modeled period of record (1965-2005) with percentage changes relative to the base condition.

Florida manatees have been observed in conveyance canals within the project area (**FIGURE 14**). Under CEPP South, the entire remaining length of the L-67 Extension Levee (5.5 miles) would be removed and the adjacent borrow canal would be backfilled (5.5 miles). Under CEPP South, three gated culverts (S-631, S-632, and S-633) would be located in the L-67A levee adjacent to the L-67A Canal and a gated spillway (S-355) would be constructed in the L-29 Canal at the southern extent of the proposed L-67D levee to convey water from the L-29 Canal within the Blue Shanty Flowway, eastward towards the existing S-344 spillway. Manatees currently have access to the L-67A Canal and the L-29 Canal. Under CEPP South, approximately 4.0 miles of the east-west agricultural ditch would be backfilled in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal (**FIGURE 3**). Approximately 1.56 miles are expected to be backfilled under Contract 1 of CEPP South. This shallow agricultural ditch is not hydrologically connected to the L-67A Canal and is inaccessible to manatees. The Corps commits to avoiding and minimizing for adverse effects during construction activities by implementing construction conservation measures as outlined in Standard Manatee Conditions for In-Water Work consistent with the commitment provided in the 2018 CEPP South BA.

Improvements in seasonal inflow deliveries to Florida Bay and southern Biscayne Bay has the potential to improve conditions suitable for seagrass survival. Seagrasses within Florida Bay and southern Biscayne Bay have long suffered from high salinities due to long-term reductions of freshwater flow. Increased freshwater flows to the coastal estuaries would improve salinity, therefore having the potential to reduce stress on sea grasses that are important to foraging manatees. Based on the above information, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Florida manatee and its designated critical habitat. In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP may affect, but is not likely to adversely affect the Florida manatee and its designated critical habitat. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS.

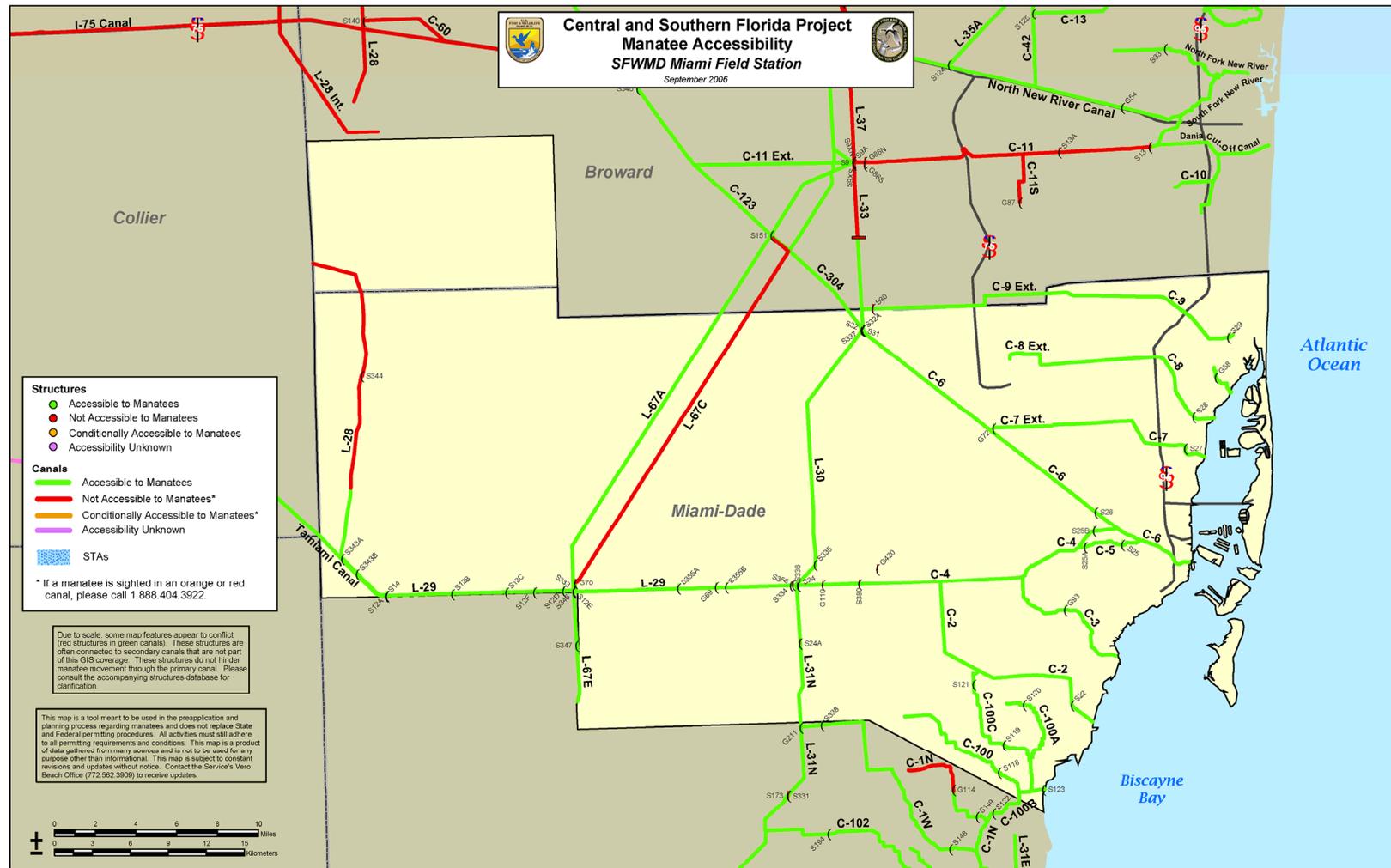


FIGURE 14. WEST INDIAN MANATEE CENTRAL AND SOUTH FLORIDA ACCESSIBILITY

### 6.3.2.3 Florida Bonneted Bat and “May Affect Not Likely to Adversely Affect” Determination

The Florida bonneted bat is Florida’s only endemic bat and is also Florida’s largest bat, weighing approximately 1.1 to 1.6 ounces, with a 19 to 21 inch wingspan, and a body length of 5.1 to 6.5 inches (Owre 1978, Belwood 1981, Belwood 1992, Timm and Genoways 2004). Males and females are not significantly different in size (Timm and Genoways 2004). The species has dark brown fur and large broad ears that join together and slant forward over the eyes (FBC 2005). Relatively little is known regarding the ecology and habitat requirements of this species. In general, bats will forage over ponds, streams and wetlands and require roosting habitat for daytime roosting, protection from predators and rearing of young (Marks and Marks 2008a). Bats in south Florida roost primarily in trees and manmade structures (Marks and Marks 2008a). Florida bonneted bats roost in tree cavities, rocky outcrops and dead palm fronds while in residential communities, the bats roost in Spanish tile roofs, but have also been found in attics, rock or brick chimneys and fireplaces of old buildings (Marks and Marks 2008a). The species roosts singly or in colonies consisting of a male and several females (Belwood 1992). Colonies are small, with the largest reported as just a few dozen individuals. The Florida bonneted bat is non-migratory. The species is active year round and does not have periods of hibernation or torpor (Timm and Genoways 2004). The bat is a nocturnal insectivore and relies upon echolocation to navigate and detect prey. Females give birth to a single pup. The maternity season for most bat species in Florida occurs from mid-April through mid-August (Marks and Marks 2008a). During the early portion of the season, females give birth and leave young in the roost while foraging to support lactation. During the latter part of this season, young and females forage together until the young are able to forage and survive on their own (Marks and Marks 2008a). Limited data suggests that a female may undergo a second birthing season within a given year (Timm and Genoways 2004, FBC 2005).

Florida bonneted bats are capable of dispersing long distances from roost sites to foraging areas. In general, open, fresh water and wetlands provide prime foraging areas for bats (Marks and Marks 2008b). Bats will forage over ponds, streams and wetlands, and will drink when flying over open water. During dry seasons, bats become more dependent on remaining ponds, streams, and wetland areas for foraging purposes (Marks and Marks 2008b). Florida bonneted bats are closely associated with forested areas because of their tree-roosting habits (Robson 1989; Belwood 1992; Eger 1999), but specific information is limited. Eger (1999) noted that in forested areas, old, mature trees are essential roosting sites for this species. Protective tree cover around bat roosts may be important for predator avoidance and allowing earlier emergence from the roost, thereby allowing bats to take advantage of the peak in insect activity at dusk and extend foraging time (Duverge et al. 2000). The presence of roosting habitat is also critical for the rearing of young (Marks and Marks 2008b). For most bats, the availability of suitable roosts is an important, limiting factor (Humphrey 1975).

At present, only three active, natural roost sites are known, and only limited information on historical sites is available. Echolocation calls have been recorded in a wide array of habitat types: pine flatwoods, pine rocklands, cypress, hardwood hammocks, scrubby flatwoods, mixed shrubs, mangroves, wetlands, swamps, rivers, lakes, ponds, canals, developed park lands, groves, tropical gardens, disturbed nonnative areas, rural lands, residential areas, and urban landscapes (Marks and Marks 2008a–c; 2012; Smith 2010). The range of this species is limited to southern Florida. Records indicate that it was once common in the 1950s and early 1960s near Coral Gables and Miami (Belwood 1992). Active roost sites occur at Avon Park Air Force Range discovered in 2013, the Florida Panther National Wildlife Refuge (FPNWR) discovered in 2015 and in BCNP discovered in 2015 (USFWS 2016b).

Habitat loss and alteration in forested and urban areas are major threats to the Florida bonneted bat (Belwood 1992, Timm and Arroyo-Cabrales 2008). In natural areas, this species may be impacted when forests are converted to other uses or when old trees with cavities are removed (Belwood 1992, Timm and Arroyo-Cabrales 2008). In urban settings, this species may be impacted when buildings with suitable roosts are demolished (Robson 1989, Timm and Arroyo-Cabrales 2008) or when structures are modified to exclude bats. Although the species' habitat preferences and extent of range are not well understood, significant land use changes have occurred in south Florida and additional habitat losses are expected in the future, placing the species at risk. Uncertainty regarding the species' specific habitat needs and requirements arguably contributes to the degree of this threat. Loss of suitable habitat is believed to be the primary cause of population decline. Other perceived threats include pesticide and herbicide use, which decrease populations of insects, the bats primary prey. Since the Florida bonneted bat is suspected to have high roost site fidelity, the loss of a roost site may cause greater hardship to the species than the loss of a roost site for other, more labile species (Ober 2012).

The USFWS has defined consultation areas for the Florida bonneted bat in south Florida (**FIGURE 15**). The Florida bonneted bat is restricted to south, southwest, and south-central Florida. The main action area falls within the defined consultation area.

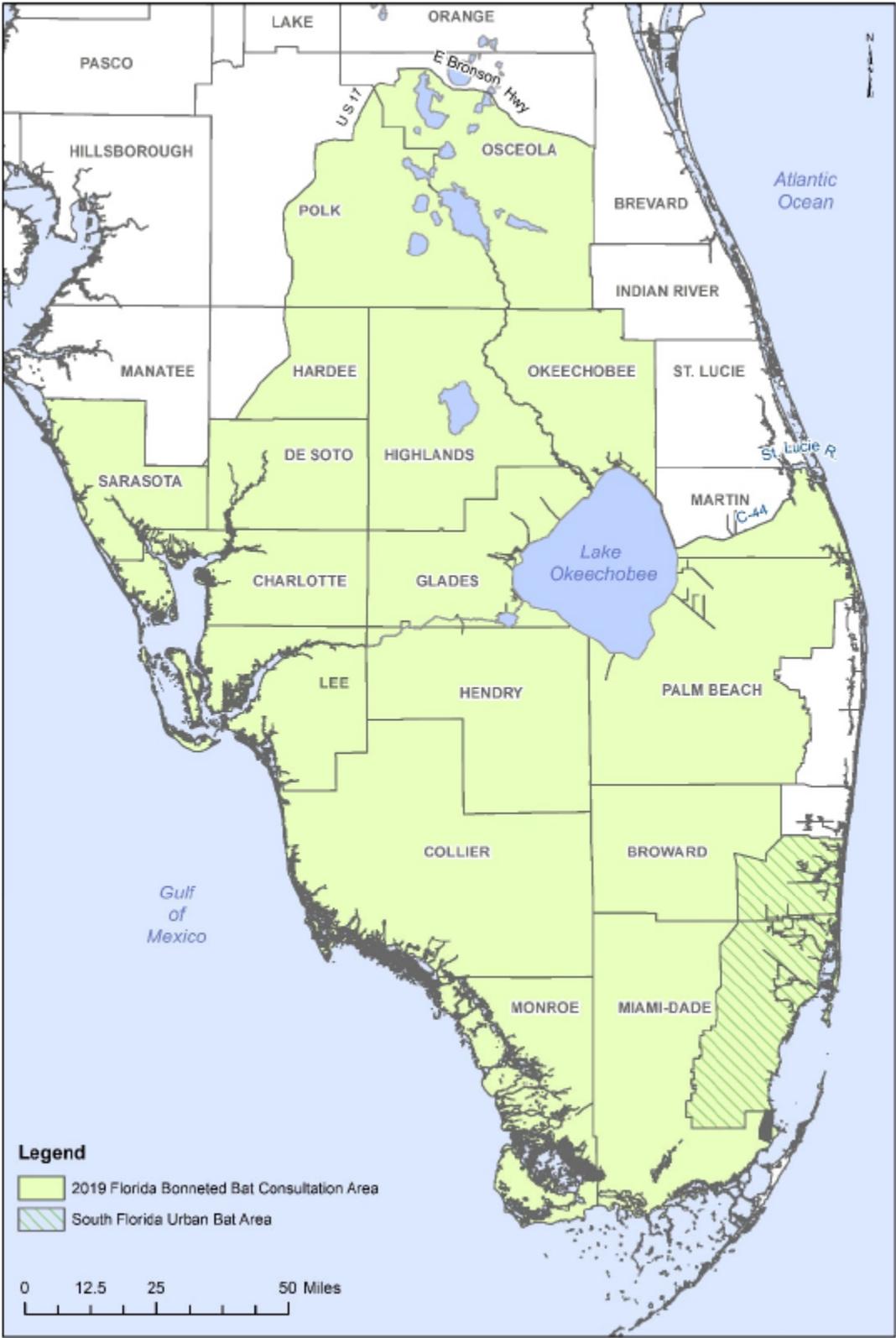


FIGURE 15. FLORIDA BONNETED BAT CONSULTATION AREA

Any actions that occur in areas known to be occupied by the Florida bonneted bat and result in the removal of potential roost sites (i.e., snags, trees) or impact foraging habitat (i.e., filling in of canals and ditches) are likely to have direct and indirect adverse effects to the Florida bonneted bat and its habitat. Known locations of Florida bonneted bats have been documented through the presence of acoustical surveys and/or sightings within south Florida. The potential presence of Florida bonneted bats have been documented within the action area as illustrated in **FIGURE 3**. **FIGURE 3** was provided by the USFWS and notes the potential presence of Florida bonneted bats along portions of the L-67A and L-67C canals and levees, as well as adjacent to NESRS along the L-31N canal and levee. At present, no active, natural roost sites are known to occur within the action area. Impacts to potential roost sites are not anticipated under the Proposed Action.

Florida bonneted bat is known to forage along wetlands and open water (Marks and Marks 2008a) and roost within pine flatwoods and other forested habitats (Belwood 1981, Robson 1989, Belwood 1992, Eger 1999). This species forages for insects at night while flying over water. Under CEPP South, the entire remaining length of the L-67 Extension Levee (5.5 miles) would be removed and the adjacent borrow canal would be backfilled (5.5 miles), resulting in a potential loss of foraging habitat through filling in of the canal. In addition, approximately 4.0 miles of the east-west agricultural ditch would also be backfilled in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal (**FIGURE 3**). Approximately 1.56 miles are expected to be backfilled under Contract 1 of CEPP South. However, this potential impact may be offset by an improvement in forage conditions by increasing the quality of existing wetlands. Potential changes in hydrology within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. Under COP, the L-29 Canal stage is anticipated to be limited to 8.5 feet, NGVD consistent with the operational guidance defined in Appendix A of the 2020 COP EIS (refer to **Section 4**). ALTQ+ increased overland flow, water depths and resulting hydroperiods in portions of ENP, including NESRS and Taylor Slough (USACE 2019). Reference Section D.2.4.2 of the 2019 COP BA for a description of expected differences in water depths and hydroperiods under ALTQ+ in WCA 3 and ENP.

Under CEPP South, approximately 1,003 acres would be managed to enhance flow by reconnecting historic sloughs. This would be accomplished with active vegetation management through use of herbicides (glyphosate) to remove sawgrass that has encroached historic sloughs. As mentioned above, perceived threats to the Florida bonneted bat include pesticide and herbicide use, which decrease populations of insects, the bats primary prey. Only a one time application of glyphosate is expected to occur, therefore potential effects to insect populations may be minimal. Application of the herbicide is expected to reduce the sawgrass, creating a more open canopy to allow for periphyton growth. The treated area is expected to become more of a functioning slough in terms of movement of water across the landscape.

Based on the above information, the Corps has determined that the action may affect, but is not likely to adversely affect, this species. The Florida bonneted bat may occur in the action area. The Corps proposes specific minimization measures as part of the project such as pre-construction surveys to be conducted prior to clearing and construction in order to identify any potential roost sites consistent with the commitment provided in the 2018 CEPP South BA. If an active roost site is located by site surveys, habitat protection in the form of avoidance and buffering of the active roost site will occur in that area. If the recommended Florida bonneted bat surveys are conducted and locate an active roost, then the Corps will: (1) protect and buffer the active roost site; (2) develop a monitoring plan for the roost site following completion of construction to determine the status of the roost site; and/or (3) mitigate for the loss of

roost habitat if deemed necessary by constructing artificial roosting structures in the roost site area after construction.

In the 2013 CEPP BA, the Corps made a no effect determination. USFWS concurrence on this determination was received previously with receipt of the 2014 Programmatic BO. The Corps has identified a may affect, not likely to adversely affect determination given the potential presence of Florida bonneted bats within the action area that have been identified since completion of ESA consultation in 2014, consistent with the determination provided in the 2018 CEPP South BA. Concurrence on this determination was received in correspondence dated December 21, 2018 from the USFWS.

#### **6.3.2.4 Cape Sable Seaside Sparrow and “May Affect” Determination**

Measuring 13-14 centimeters in length, CSSS is one of nine subspecies of seaside sparrows (Werner 1975). CSSS are non-migratory residents of freshwater to brackish marshes and their range is restricted to the lower Florida peninsula. They were originally listed as endangered in 1969 due to their restricted range (USFWS 1999). Subsequent changes in their habitat have further reduced their range and continue to threaten this subspecies with extinction.

CSSS appear to prefer mixed marl prairie communities that include muhly grass (*Muhlenbergia filipes*) for nesting (Stevenson and Anderson 1994). These short-hydroperiod (the period of time during which a wetland is covered by water) prairies contain a mosaic of moderately dense, clumped grasses, interspersed with open space that permit ground movements by the sparrows (USFWS 1999). According to previous literature, (Werner 1975; Bass and Kushlan 1982), CSSS are generally not found in communities dominated by dense sawgrass, cattail (*Typha spp.*) monocultures, long hydroperiod wetlands with tall, dense vegetative cover, spikerush marshes, and sites supporting woody vegetation. However, recent research has revealed that CSSS within the Dogleg North plot sub-population B (CSSS-B) were successfully nesting in “very thick, tall sawgrass” (Virzi and Davis 2013; Slater et al. 2014). Curnett and Pimm (1993) indicated that CSSS also avoid sites with permanent water cover; however, more recent evidence has shown that CSSS successfully nested in areas in which “water levels were extremely high approaching knee-deep at times with 100% coverage the entire summer” (Virzi and Davis 2013). The combination of hydroperiod and periodic fire events are critical in the maintenance of suitable mixed marl prairie communities for the CSSS (Kushlan and Bass 1983).

CSSS nest in the spring when the marl prairies are dry. While the majority of nesting activities have been observed between March 1 and July 15 when Everglades marl prairies are dry, (Lockwood et al. 1997, 2001), nesting has been reported as early as late February (Werner 1975), and as late as early August (Dean and Morrison 2001). Males will establish breeding territories in early February (Balent et al. 1998) and defend these territories throughout the breeding season (USFWS 1999). Male sparrows vocalize to attract females and this particular breeding activity has been shown to decrease with increased surface water conditions (Nott et al. 1998; Curnutt and Pimm 1993).

CSSS construct their nests relatively close to the ground in clumps of grasses composed primarily of muhly, beakrushes (*Rhynchospora spp.*), and Florida little bluestem (*Schizachyrium rhizomatum*) (Pimm et al. 2002). The average early season nest height is 17 centimeters (6.7 inches) above ground, while the average late season nest height is 21 centimeters (8.3 inches) above ground (Lockwood et al. 2001). The shift in average nest height after the onset of the wet season rainfall pattern, which typically begins in early June (Lockwood et al. 2001), appears to be an adaptive response to rising surface water conditions. In general, the CSSS will raise one or two broods within a season; however, if weather conditions permit,

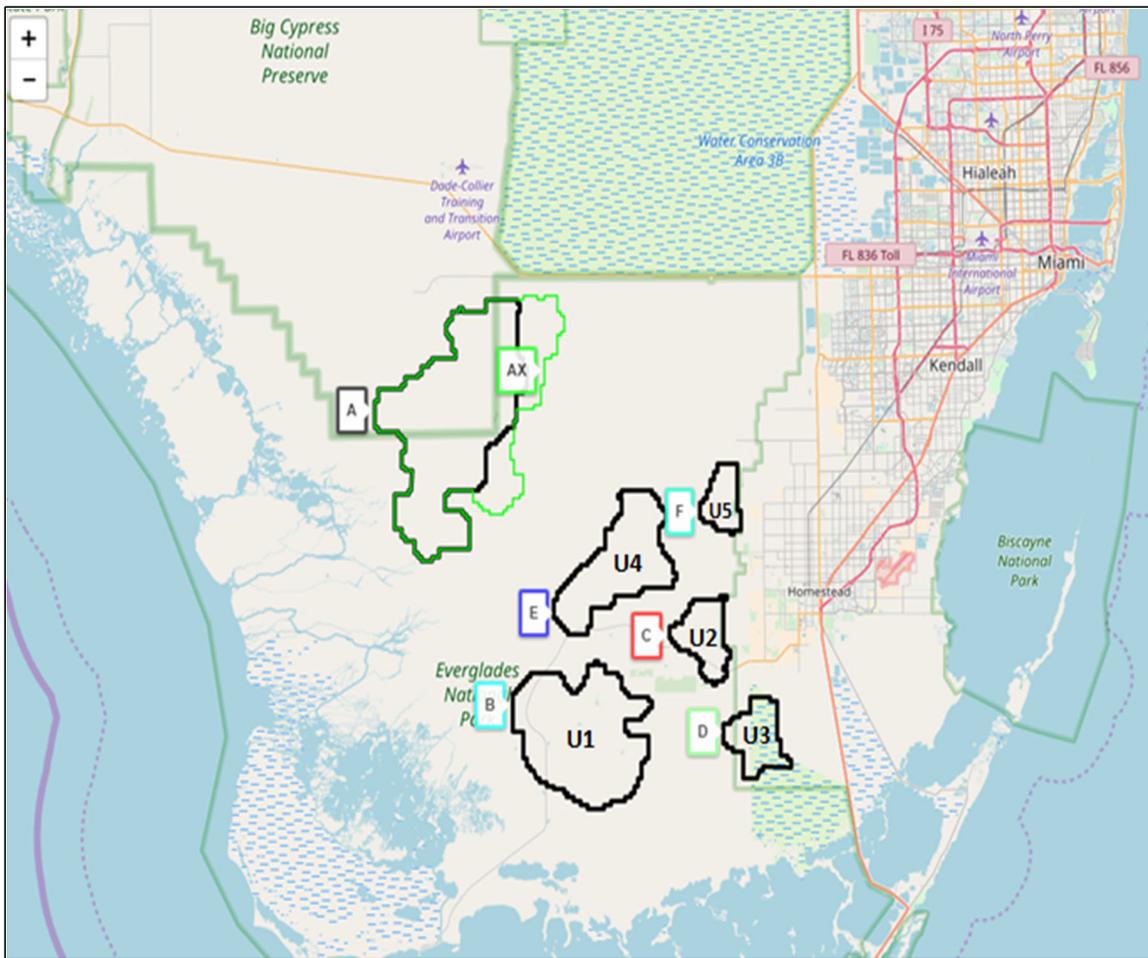
a third brood is possible (Kushlan et al. 1982; USFWS 1983). A new nest is constructed for each successive brood. The end of the breeding season is triggered by the onset of the rainy season when ground water levels rise above the height of the nest off the ground (Lockwood et al. 1997).

CSSS will lay three to four eggs per clutch (Werner 1975; Pimm et al. 2002) with a hatching rate ranging between 0.66 and 1.00 (Boulton et al. 2009b). The nest cycle lasts between 34 and 44 days in length and includes a 12-13 day incubation period, 9-11 day nestling period and 10-20 days of post-fledgling care by both parents (Sprunt 1968; Trost 1968; Woolfenden 1956, 1968; Lockwood et al. 1997; Pimm et al. 2002). Nest success rate varies between 21 and 60 percent, depending upon timing of nest initiation within the breeding season (Baiser et al. 2008; Boulton et al. 2009a). Substantially higher nest success rates occur within the early portion of the breeding season (approximately 60% prior to June 1) followed by a decline in success as the breeding season progresses to a low of approximately 21% after June 1 (Baiser et al. 2008; Boulton et al. 2009a; Virzi et al. 2009). In most years, June 1 is a good division between the early high success period and the later, lower success period (Dr. Julie Lockwood email correspondence to USFWS, October 15, 2009). Nearly all nests that fail appear to fail due to predation, and predation rates appear to increase as water level increases (Lockwood et al. 1997, 2001; Baiser et al. 2008). A complete array of nest predators has not been determined. However, raccoons (*Procyon lotor*), rice rats (*Oryzomys palustris*), and snakes, including exotic pythons, may be the chief predators (Lockwood et al. 1997; Dean and Morrison 1998; Post 2007).

A dietary generalist, CSSS feed by gleaning food items from low-lying vegetation (Ehrlich et al. 1992; Pimm et al. 2002). Common components of their diet include soft-bodied insects such as grasshoppers, spiders, moths, caterpillars, beetles, dragonflies, wasps, marine worms, shrimp, grass, and sedge seeds (Stevenson and Anderson 1994). The importance of individual food items appears to shift in response to their availability (Pimm et al. 2002).

CSSS are non-migratory with males displaying high site fidelity, defending the same territory for two to three years (Werner 1975). CSSS are capable of both short-distance and longer-range movements, but appear to be restricted to short hydroperiod prairie habitat (Dean and Morrison 1998). Large expanses of deep water or wooded habitat act as barriers to long-range movements (Dean and Morrison 1998). Recent research by Julie Lockwood, Ph.D. of Rutgers University and her students have revealed substantial movements between subpopulations east of Shark River Slough (Lockwood et al. 2008; Virzi et al. 2009), suggesting that CSSS has considerable capacity to colonize unoccupied suitable habitat (Sustainable Ecosystems Institute 2007).

Presently, the known distribution of CSSS is restricted to two areas of marl prairies east and west of Shark River Slough in the Everglades region (within ENP and BCNP) and the edge of Taylor Slough in the Southern Glades Wildlife and Environmental Area in Miami-Dade County. CSSS presently inhabit six separate subpopulations, labeled as A through F (**FIGURE 16**), with subpopulation A (CSSS-A) as the only subpopulation west of Shark River Slough. The CSSS-A expansion area (i.e. CSSS-Ax) is illustrated adjacent to CSSS-A and is highlighted in green. Monitoring conducted in recent years have identified this area, as a location where birds current reside and/or are thought to be able to expand to. CSSS-A is now referred to as CSSS-Ax. CSSS-B, CSSS-C, CSSS-D, CSSS-E, and CSSS-F are designated as critical habitat units U1-U5, respectively



**FIGURE 16. CAPE SABLE SEASIDE SPARROW SUBPOPULATIONS (A-F) AND DESIGNATED CRITICAL HABITAT UNITS (U1-U5). CSSS-AX IS ILLUSTRATED ADJACENT TO CSSS-A HIGHLIGHTED IN GREEN.**

**TABLE 5. CAPE SABLE SEASIDE SPARROW BIRD COUNT AND POPULATION ESTIMATES BY YEAR AS RECORDED BY THE EVERGLADES NATIONAL PARK RANGE-WIDE SURVEY (Data Source USFWS September 18, 2019 Leadership Group Meeting)**

Population/ Year	CSSS-A		CSSS-B		CSSS-C		CSSS-D		CSSS-E		CSSS-F		Total	
	BC	EST	BC	EST	BC	EST	BC	EST	BC	EST	BC	EST	BC	EST
2001	8	128	133	2,128	6	96	2	32	53	848	2	32	204	3,264
2002	6	96	119	1,904	7	112	0	0	36	576	1	16	169	2,704
2003	8	128	148	2,368	6	96	0	0	37	592	2	32	201	3,216
2004	1	16	174	2,784	8	128	0	0	40	640	1	16	224	3,584
2005	5	80	142	2,272	5	80	3	48	36	576	2	32	193	3,088
2006	7	112	130	2,080	10	160	0	0	44	704	2	32	193	3,088
2007	4	64	157	2,512	3	48	0	0	35	560	0	0	199	3,184
2008	7	112	NS	NS	3	48	1	16	23	368	0	0	34	544*
2009	6	96	NS	NS	3	48	2	32	27	432	0	0	38	608*
2010	8	128	119	1904	2	32	4	64	57	912	1	16	191	3,056
2011	11	176	NS	NS	11	176	1	16	37	592	2	32	62	992^
2012	21	336	NS	NS	6	96	14	224	46	736	4	64	91	1,456^
2013	18	288	112	1792	8	128	1	16	45	720	1	16	185	2,960
2014	4	64	114	1864	7	112	2	32	42	672	1	16	170	2720

Population/ Year	CSSS-A		CSSS-B		CSSS-C		CSSS-D		CSSS-E		CSSS-F		Total	
2015	13	208	120	1920	7	112	4	64	55	880	2	32	201	3216
2016	3	48	112	1792	7	112	5	80	24	384	0	0	151	2416
2017 <sup>+</sup>	1	16	121	1936	3	48	4	84	75	1200	1	16	205	3280
2018	2	32	120	1920	9	144	16	256	50	800	2	32	199	3184
2019	0	0	96	1536	5	80	11	176	55	880	1	16	168	2688

BC: Bird Count

EST: Estimate

NS: Not Surveyed

\* These numbers do not reflect a significant decline in CSSS population. CSSS-B, the largest and most stable subpopulation, was not surveyed in 2008 or 2009. Adding the 2007 CSSS-B population estimate of 2,512 birds to those of the other subpopulations, the estimated total CSSS population size is 3,056 and 3,120 birds for 2008 and 2009, respectively.

^ These numbers do not reflect a significant decline in CSSS population. CSSS-B, the largest and most stable subpopulation, was not surveyed in 2011 or 2012. Adding the 2010 CSSS-B population estimate of 1,904 birds to those of the other subpopulations, the estimated total CSSS population size is 2,896 and 3,360 birds for 2011 and 2012, respectively.

+ Note: CSSS-A includes limited survey sites in CSSS-Ax.

#### 6.3.2.4.1 Potential Affects to the CSSS

Evaluation of potential effects to the CSSS within the 2013 CEPP BA (and referenced in the 2018 COP BA) included adaptations of ERTTP PMs, and a habitat suitability index (HSI) for marl prairie habitat to predict potential effects of implementation of the CEPP Recommended Plan as compared to the ECB and FWO. CSSS are largely sedentary, occupy the prairie habitats year-round and are completely dependent on the condition of the prairies. Favorable nesting habitat requires short hydroperiod vegetation characteristic of mixed marl prairie communities. The CSSS marl prairie ecological planning tool predicts hydrologic suitability of marl prairies based on CSSS survey presence data and threshold ranges (Pearlstone et al. 2011). The HSI measures marl prairie habitat suitability annually for four metrics: (1) average wet season water depths from June – October, (2) average dry season water depths from November–May, (3) discontinuous annual hydroperiods from May–April of the next year, and (4) maximum continuous dry days during the nesting season from March 1–July 15. Reference Figure 6-53 and Figure 6-54. Suitability for marl prairie habitat under the CEPP Recommended Plan was predicted to decrease in the vicinity of CSSS-B, CSSS-D, CSSS-E, and CSSS-F relative to the ECB and FWO. Marl prairie habitat suitability decreased in CSSS-E compared with the ECB and FWO by 10% and 11%, respectively. Notable changes were predicted to occur within the eastern marl prairies in the vicinity of CSSS-E, along the eastern edge of SRS. Increased hydroperiods within the eastern marl prairies predicted under the CEPP Recommended Plan may potentially result in a shift in vegetation when the entirety of CEPP is implemented. Ross and Sah (2004) noted differences in species composition within wet prairies based upon hydroperiod. Shorter hydroperiod prairies were dominated by *Muhlenbergia*, *Schizachyrium* and *Paspalum*, while longer hydroperiod prairies consisted of *Cladium*, *Schoenus*, and *Rhynchospora*. Compared to the ECB and FWO, differences in marl prairie habitat suitability within CSSS-B, CSSS-D, and CSSS-F were decreased to a lesser extent as compared to CSSS-E under the CEPP Recommended Plan. Marl prairie habitat suitability decreased in CSSS-B, CSSS-D, and CSSS-F compared with the ECB by 1%, 6%, and 4% respectively. Decreases of 2%, 5%, and 1% were observed for CSSS-B, CSSS-D, and CSSS-F compared with the FWO. Potential shifts in vegetation were predicted to occur to a lesser degree in these subpopulations with implementation of the CEPP Recommended Plan. Analyses of marl prairie habitat suitability with the northwestern marl prairies in the vicinity of CSSS-A revealed negligible benefits as compared with the ECB and FWO. Habitat suitability within central and southern CSSS-A (and flanking regions to the east) declined while habitat suitability in northern CSSS-A and regions northeast of CSSS-A slightly improved. Implementation of the CEPP Recommended Plan was predicted to provide benefits within CSSS-C compared to the ECB and FWO. Marl prairie habitat suitability was improved in CSSS-C compared with the ECB and FWO by 11% and 1%, respectively. Benefits were predicted to be distributed spatially throughout CSSS-C. Reference Section 6.2.8 of the 2013 CEPP BA for additional information related to the marl prairie HSI as well as other ERTTP PMs (USACE 2013).

Implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA; however CEPP South would likely show a reduced effect to marl prairie vegetation as discussed in the 2013 CEPP BA (and referenced in the 2018 BA) in the eastern CSSS subpopulations as additional water (i.e. 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future. Furthermore, operations of the CEPP South features will be subject to current downstream constraints consistent with ALTQ+ (COP Preferred Plan), which include maintaining the maximum operating limit in the L-29 Canal at or below a specified stage and maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. The L-29 Canal stage is anticipated to be limited to below that identified within the 2014 Final CEPP PIR/EIS which assumed a maximum operating limit of 9.7 feet, NGVD. Average annual overland flow to NESRS across RSM-GL

Transect 18 (southward flows in northern ENP south of Tamiami Trail and east of the L-67 Extension) within the 2014 CEPP PIR/EIS were predicted to significantly increase to 754,000 acre feet under the CEPP Recommended Plan compared to the FWO (75,000 acre feet average annual). Under the proposed COP, average annual overland flow was observed to increase across RSM-GL Transect 18 by 229,000 acre feet. Reference Table D.2-22 of the 2019 COP BA.

Potential changes in hydrology (and effects on the CSSS) within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. Under COP, the L-29 Canal stage is anticipated to be limited to 8.5 feet, NGVD consistent with the operational guidance defined in Appendix A of the 2020 COP EIS (refer to **Section 4 (CEPP South Project Description)**). Reference Section D.2.3.2 of the 2019 COP BA for a description of expected differences in water depths and hydroperiods under ALTQ+ in WCA 3 and ENP. Further detail is provided in Section D.2.6.2.4 of the 2019 COP BA for potential effects to the CSSS and is incorporated by reference.

For the proposed COP, the CSSS Marl Prairie ecological planning tool was also utilized to evaluate the potential effects of ALTQ on marl prairie habitat in relation to the CSSS. Figure D.2-57 in the 2019 COP BA shows the results of the ecological planning tool overlaid with CSSS critical habitat for ALTQ relative to ECB19RR over the period of record (1965-2005). ALTQ was observed to increase flow to NESRS and the eastern marl prairies relative to ECB19RR (Table D.2-22); however, changes to the eastern marl prairies generally fell within a range of +/- 10% in those subpopulations currently inhabited by CSSS-B through CSSS-F. Marl prairie habitat suitability increased in the northern portion of CSSS-Ax under ALTQ. Areas of decreased suitability were observed in portions of CSSS-E and CSSS-D; however, these observed decreases were coupled with observed increases in suitability in areas directly east of CSSS-E and north and south of CSSS-F and CSSS-C.

The two most critical performance metrics for maintaining and enhancing the chances for CSSS survival are the number of consecutive days during the CSSS nesting season (March 1 – July 15) when there is no surface water (i.e. dry nesting days) and the total number of days when there is water above ground surface during the year (i.e. annual discontinuous hydroperiod) (USFWS 2016). Since it takes the CSSS, a ground nesting bird (nests on average are 17 cm above ground), approximately 45 days to nest and fledge young, the 2016 ERTF BO RPA has set a target of providing at least 90 consecutive dry nesting days between March 1 and July 15, over at least 24,000 acres (equates to 40%) within and adjacent to CSSS-Ax, and across at least 40% of each of the eastern subpopulations (B-F) every year, to allow for multiple broods during each nesting season in order to stabilize and potentially increase the population. Since, an average annual discontinuous hydroperiod of between 90 and 210 days, which normally occurs outside of the nesting season, is required to maintain suitable marl prairie habitat for the CSSS (USFWS 2016), the 2016 ERTF BO has set a target of providing a four year running average discontinuous hydroperiod of 90-210 days over at least 24,000 acres (equates to 40%) within and adjacent to CSSS-Ax (with no 2 consecutive years failing to meet this target), and across at least 40% of each of the eastern subpopulations (B-F). If the number of days with surface water is consistently more than 210 days, the habitat will convert to sawgrass. If it is consistently too dry (less than 90 days) woody vegetation encroaches on the habitat and there is an increased risk of fire and predation on CSSS from aerial predators (raptors).

Table D.2-9 through Table D.2-14 in the 2019 COP BA depicts the percentage of habitat within each of the six CSSS subpopulations (CSSS-Ax, CSSS-B, CSSS-C, CSSS-D, CSSS-E, and CSSS-F) that experienced > 90 consecutive dry days during the nesting season (defined as March 1 through July 15) for each year in the period of record (1965-2005). An average percentage of greater than 40% was achieved over the period

of record in CSSS-Ax and in the eastern subpopulations (CSSS-B, CSSS-C, CSSS-D, CSSS-E, and CSSS-F) under ECB19RR and ALTQ. Across the sub-populations, the difference in average percentage over the period of record for ALTQ relative to ECB19RR, ranged from a minimum difference of -7.7% (CSSS-E) to a maximum difference of 3.4% (CSSS-C). Generally, ALTQ was observed to score equal to or slightly less than ECB19RR.

Figure D.2-15 through Figure D.2-20 in the 2019 COP BA depicts the percentage of habitat within each of the six CSSS subpopulations (CSSS-Ax, CSSS-B, CSSS-C, CSSS-D, CSSS-E, and CSSS-F) that experienced a four year running average discontinuous hydroperiod between 90 and 210 days for each year in the period of record (1965-2005). An average percentage of greater than 40% was not met in CSSS-Ax, however it was achieved in CSSS-B, CSSS-C, and CSSS-F for ECB19RR and ALTQ. Across the sub-populations, the difference in average percentage over the period of record for ALTQ relative to ECB19RR, ranged from a minimum of -20.0% less (CSSS-D) to a maximum of 4.0% more (CSSS-C). ALTQ+ is expected to be very similar to ALTQ with no significant change.

The goal of CEPP South and CERP is to rehydrate the greater Everglades and provide higher volumes of freshwater into ENP. Areas within the eastern marl prairies along the boundary of ENP suffer from over-drainage, reduced water flow, exotic tree invasion and frequent human-induced fires (Lockwood et al. 2003, Ross et al. 2006). To alleviate the perpetual drier conditions and its associated problems, increased water flows within this area are required. Implementation of CEPP South is expected to provide more water to SRS and the eastern marl prairies. Increased hydroperiods within the eastern marl prairies may act to alleviate some of the problems associated with drier conditions and promote a shift in species community composition; however over inundation on the flanks of SRS may shift marl prairie communities to wetter habitats. The western marl prairies, where CSSS-Ax resides may experience a backwater effect due to increased flows in NESRS; however this potential effect may be ameliorated by removal of the L-67 Extension Levee under CEPP South. Additional water being delivered to NESRS may reduce the volume of flow through the S-12 structures. Flows through S-343A/B, S-344, and S-12A, S-12B, S-12C, and S-12D were significantly reduced by 131,200 acre feet per year on average under ALTQ relative to ECB19RR. Decreased flow (67,000 acre feet) was also observed across Transect T17 for ALTQ which is located west of the L-67 Extension in ENP. Reference Table D.2-22 of the 2019 COP BA. The seasonal closures for the S-12A, S-12B, S-343A and S-343B would remain unchanged from the 2016 ERTF BO. However, ALTQ+ includes removal of the seasonal closures at S-344 and includes limited adjustments to the S-332D seasonal pump restrictions. Lifting of S-344 closure dates and extending S-332D full pumping by an additional month, from November 30 to December 31, were based on coordination with the USFWS during development of the proposed COP.

Potential effects to CSSS critical habitat units expected under CEPP South are as follows as described in the 2019 COP BA. It is important to note that implementation of CEPP South features is an identified conservation recommendation within the 2016 ERTF RPA for the CSSS to maintain nesting conditions and suitable habitat.

#### **Subpopulation B (CSSS-B/Unit 1) -**

**Dry Nesting Days:** Unit 1 was predicted to meet the target habitat percentage (40%) that experienced > 90 consecutive dry days during the nesting season under ALTQ for 35 years out of the 41 year period of record as compared to 37 years under ECB19RR. ALTQ was observed to score higher than or equal to ECB19RR for 14 years out of the period of record. ALTQ was observed to score less than ECB19RR for 27 years out of the period of record; however when the difference in average percentage over the period of record was calculated it was less than 10% (-

1.1%). An average percentage of greater than 40% was still achieved over the period of record in CSSS-B.

**Annual Discontinuous Hydroperiod:** In Unit 1, ALTQ failed to meet the target habitat percentage (40%) that experienced a four year running average discontinuous hydroperiod between 90 and 210 days in two consecutive years only one time, which was equivalent to ECB19RR. ALTQ was observed to score higher than or equal to ECB19RR in meeting the target habitat percentage (40%) in a given year 16 times over the period of record. ALTQ was observed to score less than ECB19RR 22 times over the period of record. An average habitat target percentage (40%) was achieved for both ECB19RR and ALTQ with no difference between the two. For Unit 1, the average of the mean four year hydroperiod over the period of record fell within the range of 90 to 210 days under ECB19RR ( $146 \pm 52$  days) and ALTQ ( $148 \pm 52$  days).

Hydrological conditions within this Unit 1 would support hospitable conditions for nesting sparrows under implementation of the Proposed Action.

#### **Subpopulation C (CSSS-C/Unit 2) –**

**Dry Nesting Days:** Unit 2 was predicted to meet the target habitat percentage (40%) that experienced > 90 consecutive dry days during the nesting season under ALTQ for 36 years out of the 41 year period of record, equivalent to ECB19RR. ALTQ was observed to score higher than or equal to ECB19RR for 33 years out of the period of record. ALTQ was observed to score less than ECB19RR for 8 years out of the period of record; however when the difference in average percentage over the period of record was calculated it was less than 10% (3.4%). An average percentage of greater than 40% was still achieved over the period of record in CSSS-C.

**Annual Discontinuous Hydroperiod:** In Unit 2, ALTQ failed to meet the target habitat percentage (40%) that experienced a four year running average discontinuous hydroperiod between 90 and 210 days in two consecutive years 12 times, three times less than ECB19RR. ALTQ was observed to score higher than or equal to ECB19RR in meeting the target habitat percentage (40%) in a given year 28 times over the period of record. ALTQ was observed to score less than ECB19RR 10 times over the period of record. An average habitat target percentage (40%) was achieved for both ECB19RR and ALTQ with ALTQ scoring slightly higher (+4%). For Unit 2, the average of the mean four year hydroperiod over the period of record fell within the range of 90 to 210 days under ECB19RR ( $102 \pm 57$  days) and ALTQ ( $109 \pm 55$  days).

Hydrological conditions within this Unit 2 would support hospitable conditions for nesting sparrows under implementation of the Proposed Action.

#### **Subpopulation D (CSSS-D/Unit 3) –**

**Dry Nesting Days:** Unit 3 was predicted to meet the target habitat percentage (40%) that experienced > 90 consecutive dry days during the nesting season under ALTQ for 21 years out of the 41 year period of record as compared to 24 years under ECB19RR. ALTQ was observed to score higher than or equal to ECB19RR for 23 years out of the period of record. ALTQ was observed to score less than ECB19RR for 28 years out of the period of record; however when the difference in average percentage over the period of record was calculated it was less than 10% (-

7.2%). An average percentage of greater than 40% was still achieved over the period of record in CSSS-D.

**Annual Discontinuous Hydroperiod:** In Unit 3, ALTQ failed to meet the target habitat percentage (40%) that experienced a four year running average discontinuous hydroperiod between 90 and 210 days in two consecutive years 23 times compared to ECB19RR with 7 times. ALTQ was observed to score higher than or equal to ECB19RR in meeting the target habitat percentage (40%) in a given year 6 times over the period of record. ALTQ was observed to score less than ECB19RR 32 times over the period of record. An average habitat target percentage (40%) was achieved for ECB19RR (50%); however ALTQ achieved an average of only 37%, a difference of -20%. For Unit 3, the average of the mean four year hydroperiod over the period of record fell within the range of 90 to 210 days under ECB19RR ( $188 \pm 46$  days) and slightly above the range for ALTQ ( $214 \pm 50$  days).

Hydrological conditions within this Unit 3 would support hospitable conditions for nesting sparrows under implementation of the Proposed Action.

#### **Subpopulation E (CSSS-E/Unit 4) -**

**Dry Nesting Days:** Unit 4 was predicted to meet the target habitat percentage (40%) that experienced > 90 consecutive dry days during the nesting season under ALTQ for 23 years out of the 41 year period of record as compared to 27 years under ECB19RR. ALTQ was observed to score higher than or equal to ECB19RR for 11 years out of the period of record. ALTQ was observed to score less than ECB19RR for 30 years out of the period of record; however when the difference in average percentage over the period of record was calculated it was less than 10% (-7.7%). An average percentage of greater than 40% was still achieved over the period of record in CSSS-E.

**Annual Discontinuous Hydroperiod:** In Unit 4, ALTQ failed to meet the target habitat percentage (40%) that experienced a four year running average discontinuous hydroperiod between 90 and 210 days in two consecutive years 17 times compared to ECB19RR with 13 times. ALTQ was observed to score higher than or equal to ECB19RR in meeting the target habitat percentage (40%) in a given year 6 times over the period of record. ALTQ was observed to score less than ECB19RR 32 times over the period of record. An average habitat target percentage (40%) was achieved for ECB19RR (44%); however ALTQ achieved an average of only 39%, a difference of -5%. For Unit 4, the average of the mean four year hydroperiod over the period of record fell within the range of 90 to 210 days under ECB19RR ( $204 \pm 64$  days) and slightly above the range for ALTQ ( $217 \pm 65$  days).

Hydrological conditions within this Unit 4 would support hospitable conditions for nesting sparrows under implementation of the Proposed Action.

#### **Subpopulation F (CSSS-F/Unit 5) -**

**Dry Nesting Days:** Unit 5 was predicted to meet the target habitat percentage (40%) that experienced > 90 consecutive dry days during the nesting season under ALTQ for 30 years out of the 41 year period of record which was equivalent to ECB19RR. ALTQ was observed to score

higher than or equal to ECB19RR for 31 years out of the period of record. ALTQ was observed to score less than ECB19RR for only 10 years out of the period of record. When the difference in average percentage over the period of record was calculated it was minimal (-1.7%). An average percentage of greater than 40% was achieved over the period of record in CSSS-E.

**Annual Discontinuous Hydroperiod:** In Unit 5, ALTQ failed to meet the target habitat percentage (40%) that experienced a four year running average discontinuous hydroperiod between 90 and 210 days in two consecutive years 10 times compared to ECB19RR with 11 times. ALTQ was observed to score higher than or equal to ECB19RR in meeting the target habitat percentage (40%) in a given year 24 times over the period of record. ALTQ was observed to score less than ECB19RR 14 times over the period of record. An average habitat target percentage (40%) was achieved for both the ECB19RR (52%) and ALTQ (50%), a difference of -2%. For Unit 5, the average of the mean four year hydroperiod over the period of record fell within the range of 90 to 210 days under ECB19RR ( $136 \pm 72$  days) and ALTQ ( $152 \pm 75$  days).

Hydrological conditions within Unit 5 would support hospitable conditions for nesting sparrows under implementation of the Proposed Action.

CEPP South may potentially raise groundwater levels in sensitive areas for the sparrow, therefore, hydrological changes associated with implementation of the action are expected to alter some of the physical and biological features essential to the nesting success and overall conservation of the subspecies. The implementation of the Proposed Action is expected to influence wetland hydroperiods causing changes in nesting and marl prairie suitability for the CSSS. The Corps proposes specific minimization measures as part of the proposed COP including species and habitat monitoring to identify population trends for the CSSS currently being conducted in compliance with the 2016 ERTF BO (USFWS 2016) and consistent with that proposed in the 2019 COP BA. Upon construction completion and operation of CEPP South features, the Corps will continue to implement Periodic Scientist Calls (PSC) to provide real-time assessment of conditions within the action area to ensure wildlife recommendations are considered during the water management decision process. Based upon the current information, the Corps' determination is that the Proposed Action may affect the CSSS and its designated critical habitat and is thus requesting formal consultation under ESA for this species.

### 6.3.2.5 American Alligator and "May Affect Not Likely to Adversely Affect" Determination

The American alligator is listed as threatened by the USFWS due to similarity of appearance to American crocodile, an endangered species. A keystone species within the Everglades ecosystem, the American alligator is dependent on spatial and temporal patterns of water fluctuations that affect courtship and mating, nesting, and habitat use (Brandt and Mazzotti 2000). Historically, American alligators were most abundant in the peripheral Everglades marshes and freshwater mangrove habitats, but are now most abundant in canals and the deeper slough habitats of the central Everglades. Water management practices including drainage of peripheral wetlands and increasing salinity in mangrove wetlands as a result of decreased freshwater flows has limited occurrence of American alligators in these habitats (Craighead 1968, Mazzotti and Brandt 2000).

The Proposed Action is expected to benefit WCA 3B and ENP by increasing flows to the area. The hydrologic effects of the Proposed Action are expected to benefit existing wetlands within the action area. A Habitat Suitability Index (HSI) for alligators was used to predict potential effects of implementation of CEPP (SFNRC 2013a). Reference Figure 6.2 and 6.3 of the 2013 CEPP BA. Results from the prior analysis

indicated that implementation of CEPP would improve alligator habitat suitability throughout WCA 3A and ENP. The greatest increase in benefits was anticipated to occur within northern WCA 3A due to additional water deliveries within this region. Gains were anticipated to be smaller in central WCA 3A, WCA 3B, and ENP. Changes within southern WCA 3A demonstrated potential negative effects to alligator production, however, the effects appeared relatively negligible (South Florida Natural Resources Center 2013). Reference Section 6.2.1 of the 2013 CEPP BA for additional information (USACE 2013). Implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA and 2018 CEPP BA; however CEPP South would likely show a reduced beneficial effect in WCA 3B and ENP as additional water (*i.e.* 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future. Furthermore, operations of the CEPP South features are expected to be subject to current downstream constraints, consistent with ALTQ+ (COP Preferred Plan), which include maintaining the maximum operating limit in the L-29 Canal at or below a specified stage and maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County.

For the proposed COP, the same HSI was available to evaluate potential effects on the American alligator a keystone species within the Greater Everglades marsh systems, acting as predator and prey and structuring plant communities (Brandt and Mazzotti, 2000). Figure D.2-58 through Figure D.2-60 in the 2019 COP BA illustrates the difference in alligator breeding potential for ALTQ relative to ECB19RR for a representative average year (1978), dry year (1989), and wet year (1995) within the period of record (1965-2005). During a dry year, observed differences relative to ECB19RR were most often not more than a  $\pm 10\%$  change across the majority of WCA 3 and ENP. During a wet year, increases in alligator habitat suitability greater than 10% were observed for ALTQ in southern WCA 3A and in portions of southern ENP on the flanks of eastern SRS. Areas of decreased suitability by more than 10% were observed in areas of ENP directly east and west of the L-67 Extension. During an average year areas of decreased suitability were also observed in these areas in addition to southern WCA 3A. Figure D.2-61 in the 2019 COP BA shows percent change in mean annual alligator habitat suitability against ECB19RR. Further detail is provided in Section D.2.6.2.5 of the 2019 COP BA and is incorporated by reference.

Alligators are likely to utilize conveyance canals within the project area. Under CEPP South, the entire remaining length of the L-67 Extension Levee (5.5 miles) would be removed and the adjacent borrow canal would be backfilled (5.5 miles). Under CEPP South, approximately 4.0 miles of the east-west agricultural ditch would be backfilled in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal (**FIGURE 3**). Approximately 1.56 miles are expected to be backfilled under Contract 1. This shallow agricultural ditch is not hydrologically connected to the L-67A Canal and is inaccessible to alligators. Potential adverse effects to alligators that utilize the L-67 Extension Levee, and potentially the east-west agricultural ditch, will occur due to backfilling of the canal under CEPP South; however, these effects are expected to be short term as alligators will expand into other areas of suitable habitat created as a result of CEPP South implementation. Based on the above information, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the American alligator. In the 2013 CEPP BA, the Corps made this same determination. USFWS concurrence on this determination was received with receipt of the 2014 Programmatic BO.

#### **6.3.2.6 American Crocodile and “May Affect Not Likely to Adversely Affect” Determination**

American crocodiles are known to exist throughout Florida Bay and Biscayne Bay, specifically around the coastal fringes from Miami to the bottom of the peninsula and up around Naples (Cherkiss 1999, Cherkiss et. al 2011). There are three primary nesting populations in south Florida: Florida Bay, Turkey Point on

Biscayne Bay and Key Largo. The cooling canals of Florida Power and Light's Turkey Point Power Plant support the most successful crocodile nesting population in south Florida (Mazzotti et al. 2007). These cooling canals offer premium nesting habitat because they satisfy the crocodile's two primary nesting requirements – suitable substrate above the normal high water level and adjacent deep-water refugia. While crocodiles prefer sandy substrates, they will often utilize canal spoil banks (Kushlan and Mazzotti 1989). Growth and survival of hatchling and juvenile crocodiles is influenced by salinity. Optimal salinity for these life stages is 0 to 20 psu in the wetlands and coastal creeks during the wet season and partway through the dry season (approximately June through January) (Moler 1992, Mazzotti 1999, Mazzotti et al. 2007). Changes in hydrology that would increase existing salinity conditions in the crocodile reproduction areas would degrade juvenile habitat for the American crocodile. Critical habitat for the American crocodile is illustrated in **FIGURE 9**.

In the 2013 CEPP BA (and referenced in the 2018 CEPP BA) a Habitat Suitability Index (HSI) for juvenile American crocodiles was used to predict potential effects of implementation of CEPP in Florida Bay (Moler 1992, Mazzotti 1999, Mazzotti et al. 2007, Brandt 2013). Reference Figure 6.4 and Figure 6.5 of the 2013 CEPP BA. Results from the prior analysis indicated that implementation of CEPP would improve juvenile crocodile growth and survival at sites along the northern Florida Bay shoreline including Little Blackwater Sound, Long Sound, Joe Bay, Trout Cove, Little Madeira Bay, Terrapin Bay, and Garfield Reference Section 6.2.2 of the 2013 CEPP BA for additional information (USACE 2013). The 2013 CEPP BA noted that improvements in seasonal inflow deliveries to Florida Bay has the potential to improve salinity conditions that are more favorable for juvenile crocodile growth and survival. Nearshore salinity conditions within the coastal estuaries are elevated much of the year as a result of the less than adequate freshwater flow deliveries.

The hydrologic effects presented within the 2014 CEPP Final PIR/EIS represent the combined effects from implementation of the A-2 FEB, the L-6 Diversion, the northern WCA 3A hydropattern restoration components along the L-4 Levee and Canal, the Miami Canal Backfill (north of Interstate 75), and the new or expanded WCA 3A outlet structures along L-67A, along with the associated operations. Average annual overland flow within Central Shark River Slough across RSM-GL Transect 27 in the 2014 CEPP Final PIR/EIS was predicted to significantly increase from an average annual volume of 594,000 acre feet with the FWO to 760,000 acre feet under the CEPP Recommended Plan (28% increase). For the CEPP Recommended Plan, average annual surface water transect flows from southeastern ENP towards Florida Bay were predicted to increase by 2,000 acre feet (7%) for Craighead Basin (RSM-GL Transect 23-A), increase by 8,000 acre feet (11%) from Taylor Slough (Transect 23B), and increase by 13,000 acre feet (9%) for the Eastern Panhandle of ENP (Transect 23-C), resulting in a net increase of approximately 23,000 acre feet compared to the FWO. Reference Appendix C.2.2.7 of the 2014 CEPP Final PIR/EIS. Implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA and 2018 CEPP BA; however CEPP South would likely show a reduced beneficial effect in the southern estuaries as additional water (*i.e.* 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future. Furthermore, operations of the CEPP South features are expected to be subject to current downstream constraints, consistent with ALTQ+ (COP Preferred Plan), which include maintaining the maximum operating limit in the L-29 Canal at or below a specified stage and maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. Potential changes in hydrology within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. The Proposed Action is not expected to result in significant adverse impacts to the coastal estuaries. Reference **Section 6.3.2.2** of this BA for a description of expected differences in overland flow to Florida Bay and Biscayne

Bay and resulting changes in salinity expected under ALTQ+ using the RECOVER salinity performance measure. Further detail is provided in Section D.2.6.2.6 of the 2019 COP BA and is incorporated by reference. Based on the above information, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the American crocodile and its designated critical habitat. In the 2013 CEPP BA and 2018 BA, the Corps made this same determination. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS.

#### 6.3.2.7 Eastern Indigo Snake and “May Affect Not likely to Adversely Affect” Determination

The Eastern indigo snake is the largest native non-venomous snake in North America, reaching lengths of up to 8.5 feet (Moler 1992). It is an isolated subspecies occurring in southeastern Georgia and throughout peninsular Florida. The Eastern indigo snake prefers drier habitats, but may be found in a variety of habitats including pine flatwoods, scrubby flatwoods, floodplain edges, sand ridges, dry glades, tropical hammocks, edges of freshwater marshes, muckland fields, coastal dunes, cabbage palm hammocks, and xeric sandhill communities (Schaefer and Junkin 1990, USFWS 1999). Eastern indigo snakes need relatively large areas of undeveloped land to maintain their population. In general, adult males have larger home ranges than females or juveniles. In Florida, Smith (2003) indicated that female and male home ranges extend from 5 to 371 acres and 4 to 805 acres, respectively. In south Florida, the Eastern indigo snake is thought to be widely distributed. Given their preference for upland habitats (Steiner et al. 1983), Eastern indigo snakes are not commonly found in great numbers in the wetland complexes of the Everglades region, even though they may be found in pinelands, tropical hardwood hammocks, and mangrove forests in extreme south Florida (Duellman and Schwartz 1958, Steiner et al. 1983). They prefer dry, well drained sandy soils, and commonly use burrows and other natural holes as dens. Steiner et al. (1983) also reported that Eastern indigo snakes inhabit abandoned agricultural land and human-altered habitats in south Florida which would include levees within the WCAs. Eastern indigo snakes were listed as threatened in 1978 due primarily to habitat loss due to development. Further, as habitats become fragmented by roads, Eastern indigo snakes become increasingly vulnerable to highway mortality as they travel through their large territories (Schaefer and Junkin 1990). Declines in Eastern indigo snake populations were also due to over-collection by the pet trade (USFWS 2013).

The Proposed Action is not expected to have significant effects on the upland habitats preferred by this species. Since Eastern indigo snakes occur primarily in upland areas, their presence within the Greater Everglades is somewhat limited, except within existing levees throughout the project area. Under CEPP South, the entire remaining length of the L-67 Extension Levee (5.5 miles) would be removed and the adjacent borrow canal would be backfilled (5.5 miles). Three gated culverts (S-631, S-632, and S-633) would be located in the L-67A levee adjacent to the L-67A Canal and a gated spillway (S-355) would be constructed in the L-29 Canal at the southern extent of the proposed L-67D levee. The L-67D Levee would connect L-67A to L-29 and serve as the eastern perimeter levee for the WCA 3B flowway. Approximately 8 miles of the L-67C Levee, west of the proposed L-67D Levee, would be removed from the area north of Tamiami Trail within the WCA 3B flowway. North of the new L-67D Levee, an approximate 6,000 foot gap would be created to distribute discharges from S-631 to eastern WCA 3B. Approximately 4.3 miles of the L-29 Levee, west of the new L-67D Levee, would be removed. The acreage of levee degrade associated with construction of CEPP South features is listed in **TABLE 6**. Under CEPP South, approximately 4.0 4 miles of the east-west agricultural ditch would be backfilled in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal (**FIGURE 3**). Approximately 1.56 miles are expected to be backfilled under Contract 1. This shallow agricultural ditch is bound by levees on either side; however side cast from the agricultural ditch is expected to be disturbed during construction. **TABLE 6** has also

been updated from the 2018 CEPP BA to include removal of spoil mounds along the northwestern side of the L-67A canal in the proximity of the S-631, S-632, and S-633 structures referenced in the 2014 PIR/EIS, but not previously included in this table in the 2018 CEPP BA. Spoil mounds (assumed 3 spoil mounds per structure) will be removed to facilitate sheetflow connectivity with the WCA 3A marsh. The removal of 3 spoil mounds at each structure, equates to an approximate footprint of 10 acres. Eastern indigo snakes could be present within existing levees proposed to be degraded as a result of CEPP South construction. The Corps commits to avoiding and minimizing for adverse effects during construction activities by implementing standard protection measures for the Eastern indigo snake as outlined by the USFWS consistent with the commitment provided in the 2018 CEPP South BA. Reference Section 6.2.3 of the CEPP South BA for additional information.

**TABLE 6. ACREAGE OF UPLAND LOST AND UPLAND CREATION UNDER CEPP SOUTH.**

Project Feature	Upland Acres Lost	Upland Acres Created
L-67A Spoil Mound Degrade (assumed 3 spoil mounds per S-631, S-632, and S-633) (barren/disturbed to marsh)	10	
L-67C Gap Degrade	9	
L-67C Flowway Degrade	64	
L-29 Degrade	46	
Blue Shanty Levee Creation		113
L-67 Extension Levee Degrade	41	
Total	170	113

\* Reference Table 6-3 of the 2013 CEPP BA for a complete listing of CEPP features proposed within the 2014 CEPP Final PIR/EIS and the associated acres lost (USACE 2013). The above table reflects only those features included in CEPP South and is therefore reflective of the Proposed Action.

Based on the above information, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Eastern indigo snake consistent with the determination provided in the 2018 CEPP South BA. Concurrence on this determination was received in correspondence dated December 21, 2018 from the USFWS.

### 6.3.2.8 Garber's spurge and "May Affect Not Likely to Adversely Affect" Determination

The Garber's spurge is a short lived perennial herb, softly hairy throughout, with, wiry, erect stems and is up to 12 inches long. Leaves are 0.5 inches long, oval, opposite, with very short stalks and entire or minutely toothed margins. The plant has small cup-like structures holding flowers. The fruit is a pubescent capsule. The seeds either are smooth or have transverse ridges, but are not wrinkled (USFWS 1999). Garber's spurge is known from pine rocklands, coastal flats, coastal grasslands, and beach ridges in Miami-Dade and Monroe counties. It requires open sunny areas and needs periodic fires to maintain habitat

suitability. It is found throughout its historic range. Historically, it occurred from Perrine, Miami-Dade County, and west to Cape Sable, Monroe County, and to the Sand Keys west of Key West, Monroe County (USFWS 1999). Garber's spurge is currently known from about 17 populations, including two in Miami-Dade County and one at Cape Sable (on two Capes within ENP) and on 14 islands in the Keys in Monroe County (Bahia Honda, Big Torch Key, Boca Grande Key, Crawl Key, Key Largo, Cudjoe Key, Fat Deer Key, Grassy Key, Long Key, Long Point Key, Lower Matecumbe Key, Marquesas Keys, Sugarloaf Key, Summerland Key) (USFWS 2007).

The species formerly occurred on at least twice as many islands in the Keys, across a wider range of the Miami-Rock Ridge in Miami-Dade County, and formerly ranged more widely on Cape Sable. The plant is no longer known from Collier County (USFWS 2007). The plant has been documented within Long Pine Key in ENP (USFWS 2007). The plant occurs at low elevations either on thin sandy soils or directly on limestone. It is found in a variety of open to moderately shaded habitat types. In pine rocklands, it grows out of crevices in limestone. On Cape Sable within ENP, it has been reported on hammock edges, open grassy prairies, and backdune swales. In the Florida Keys, it grows on semi-exposed limestone shores, open calcareous salt flats, pine rocklands, calcareous sands of beach ridges, and along disturbed roadsides (USFWS 1999). The survival and recovery of Garber's spurge is threatened by habitat loss from urban development, fire suppression, and exotic plant infestation. In addition, remaining habitat is fragmented and most populations are small, making them more susceptible to extirpation.

The Garber's spurge has the potential to occur within the pine rocklands of ENP on Long Pine Key. Based on the above information, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Garber's spurge. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS.

#### **6.3.2.9 Bartram's Hairstreak Butterfly and Florida Leafwing Butterfly and "May Affect Not Likely to Adversely Affect" Determination**

The Bartram's hairstreak is a small butterfly approximately 1 inch (25 millimeters) in length with a forewing length of 0.4 to 0.5 inches (10 to 12.5 mm). Bartram's hairstreak is easily recognized by broad white bands with a black edge that can be seen when the wings are closed. This species does not exhibit sexual or seasonal dimorphism. The Florida leafwing is a medium-sized butterfly approximately 2.75 to 3 inches (76 to 78 millimeters) in length. The open wing surface color is red to red-brown, the closed wing is gray to tan, with a tapered outline, cryptically looking like a dead leaf when the butterfly is at rest. The Florida leafwing exhibits sexual dimorphism, with females being slightly larger and with darker coloring along the wing margins than the males (79 FR 47183).

The Bartram's hairstreak butterfly and the Florida leafwing butterfly both occur within pine rockland habitat, and occasionally associated rockland hammock and hydric pine flatwoods. Reproduction and development occur entirely within the pine rocklands. Immature stages occur entirely on the host plant, the pineland croton (*Croron linearis*). Adults disperse and roost within the pine rockland canopy, and also in associated rockland hammock and hydric pine flatwood vegetation interspersed within these pinelands. The Bartram's hairstreak butterfly has been observed every month throughout its range; however the exact number of broods appears to be sporadic from year to year, with varying peaks in seasonal abundance. The Florida leafwing produces multiple generations per year with an entire life cycle of about 2 to 3 months and maintains continuous broods throughout the year (79 FR 47183).

The Bartram's hairstreak butterfly occurs in ENP, and several pineland fragments on the mainland of Miami-Dade County, the smallest being Navy Wells Pineland Preserve. The Florida leafwing occurs in ENP and until 2006 had occurred on Big Pine Key in the Florida Keys and historically in pineland fragments on mainland Miami-Dade County. The Florida leafwing butterfly was once locally common at Navy Wells Pineland Preserve and the Richmond Pine Rocklands to the northeast of ENP, however, Florida leafwings are not known to have bred at either location in 25 years. The entire remaining population of this species is within ENP. The Bartram's hairstreak and Florida leafwing butterflies can disperse to make use of appropriate habitat in ENP as studies indicate they are able to disperse throughout the landscape as far as 5 kilometers (3 miles) utilizing high quality habitat patches (79 FR 47183). At present, ongoing surveys suggest that the Bartram's hairstreak and Florida leafwing butterflies actively disperse throughout the Long Pine Key region of ENP (79 FR 47183). Five of the seven critical habitat units (BSHB1-BSHB5) are currently occupied by the Bartram's scrub-hairstreak (BSHB1 ENP Miami-Dade County; BSHB2 Navy Wells Pineland Preserve; Miami-Dade County; BSHB3 Camp Owaissa Bauer, Miami-Dade County; BSHB4 Richmond Pine Rocklands, Miami-Dade County; BSHB5 Big Pine Key, Monroe County). One of the four critical habitat units is currently occupied by the Florida leaf wing butterfly (FLB1 ENP Miami-Dade County) (79 FR 47183). Designated critical habitat for the Florida leafwing butterfly occurs entirely within the Bartram's hairstreak units. Reference **FIGURE 10** and **FIGURE 11**.

These butterflies were listed as endangered in part due to their specificity on a single host plant and loss of associated habitat. Pine rockland communities occur on areas of relatively high elevation and consequently, have been subject to intense development pressure. In addition, pine rocklands are a fire-maintained community and require regular burns to maintain the open shrub/herbaceous stratum and to control hardwood encroachment. Fire suppression, fragmentation, invasion by exotic species, and a lowered water table have negatively affected the remaining tracts of pine rocklands. Populations of the Bartram's hairstreak and Florida leafwing butterflies have declined throughout their historic range. Distributions are extremely limited. Additional factors for population declines also include the use of insecticides for mosquito control and collecting (79 FR 47183).

The Bartram's hairstreak butterfly and the Florida leafwing butterfly have the potential to occur within the pine rocklands of ENP on Long Pine Key. Critical habitat for each species has been designated in this area (Critical Habitat Units BSHB1 and FLB1). Reference **Section 6.2.5** for the location within the action area. During plan formulation efforts for COP, the USFWS requested additional RSMGL output for locations (Blocks A, C, D, F2, G, and H) in the pine rocklands identified on Figure D.2-38 in the 2019 COP BA to support evaluation of pine rockland species, including the Florida leafwing butterfly, as the entire population of this species occurs within this map. This analysis was not completed in the 2013 CEPP BA and 2018 CEPP BA. The USFWS used ENP's fire management blocks to represent the overall boundaries of the Everglade pine rocklands. Figure D.2-39 through Figure D.2-44 in the 2019 COP BA illustrate stage duration curves for ECB19RR and ALTQ for each of the requested locations in the pine rocklands. Hydrologic effects for ALTQ+ are expected to be similar however slight increases were observed in below ground water levels. Further detail is provided in Section D.2.6.1.4 of the 2019 COP BA and is incorporated by reference. Potential changes in water levels within these areas may influence the host plant (pineland croton), utilized by these species.

In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP will have no effect on the Bartram's hairstreak butterfly and Florida leafwing butterfly. The Bartram's hairstreak butterfly and Florida leafwing butterfly were candidate species at the time consultation was completed with the USFWS on the 2014 CEPP PIR/EIS. Critical habitat was not proposed or designated at the time. Concurrence on the determinations for these species was previously received with receipt of the 2014 Programmatic BO

and in correspondence dated December 21, 2018 from the USFWS, however, since then, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Bartram's hairstreak butterfly and Florida leafwing butterfly and their designated critical habitat based on potential changes in water levels in Long Pine Key as a result of the Proposed Action.

#### **6.3.2.10 Everglades' Bully and "May Affect Not Likely to Adversely Affect" Determination**

The Everglades bully was listed as threatened by the USFWS on October 6, 2017 (82 FR 46691). The Everglades bully is a single to many stemmed shrub, 3 to 6 feet (ft.) (1 to 2 meters (m)) tall. The branches are smooth, slightly bent, and somewhat spiny. The leaves are thin, oval-shaped, 0.8 to 2 inches (2 to 5 centimeters (cm)) long, evergreen, lance-shaped, and fuzzy on their undersides. The flowers are in axillary clusters. The Everglades bully grows in pine rockland habitat, marl prairie habitat and within the ecotone between both habitats. These habitats are maintained by regular fire, and are prone, particularly marl prairie, to annual flooding for several months during the wet season. The plant also grows on the sunny edges of rockland hammock habitat which is fire resistant. Little is known about the life history of the sub species, including pollination, biology, seed production or dispersal. Reproduction is sexual with new plants generated from seeds. Flowers are produced from April to May, and fruit ripens from June to July. The plants can stand partial inundation with fresh water for a portion of the year but do not tolerate salinity (82 FR 46694; October 6, 2017).

The historical range of the plant is limited to Collier, Miami-Dade, and Monroe Counties. In Miami-Dade County, the plant was known from central and southern Miami-Dade County along the Miami Rock Ridge, which extends from Long Pine Key in the Everglades northward through urban Miami to the Miami River. In Monroe County, the plant is known from BCNP on the mainland, and was collected as far south as Key Largo, in the Florida Keys. In Collier County, the subspecies has been recorded only within BCNP. The current range of the Everglades bully is BCNP, the Long Pine Key region of ENP and pine rocklands adjacent to ENP. The sub species is extirpated from Key Largo and has not been found in surveys of pine rocklands on Key Largo, Big Pine Key, Cudjoe Key, and Lower Sugarloaf Key. The largest population is currently present at Long Pine Key in ENP. The most recent population estimate within ENP is estimated at 10,000 to 100,000 plants in 2013 (82 FR 46694; October 6, 2017). In Miami-Dade County, outside ENP, plants have been observed at Larry and Penny Thompson Park within the Richmond Pine Rocklands, at Quail Roost Pinelands, at Navy Wells Pineland Preserve, at Sunny Palms Pinelands, and in the pine rocklands at Grant Hammock and Pine Ridge Sanctuary. Surveys in the Gum Slough region of Lostmans Pines in BCNP reported finding the plant with limited distribution; however it is suggested that the Everglades bully is more widespread in BCNP than is currently known (82 FR 46694; October 6, 2017).

Declines of the plant have been attributed to habitat loss from fire suppression or inadequate fire management. Historically, fire served to maintain the boundary between pine rockland and rockland hammock by eliminating encroachment of hardwoods into pine rocklands. Absent natural or prescribed fire, many pine rocklands have succeeded to rockland hammock. Canopy cover on the interior of rockland hammock is too dense to support herbs and smaller shrub species such as the Everglades bully (82 FR 46694; October 6, 2017). Threats from other natural or manmade factors include nonnative, invasive plants; management practices (such as mowing); recreation (including ORV use), effects from small population size and isolation; limited geographic range; and stochastic events including hurricanes, storm surges, and wildfires.

In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP will have no effect on the Everglades bully. The Everglades bully was a candidate species at the time consultation was

completed with the USFWS on the 2014 CEPP PIR/EIS. Concurrence on the determinations for these species was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS, however, since then, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Everglades' bully based on potential changes in water levels in Long Pine Key as a result of the Proposed Action. Reference **Section 6.3.2.9**.

#### **6.3.2.11 Florida Pineland Crabgrass and "May Affect Not Likely to Adversely Affect" Determination**

Florida pineland crabgrass was listed as threatened by the USFWS on October 6, 2017 (82 FR 46691). Florida pineland crabgrass is a small perennial clump-grass appearing blue to gray with reddish brown stems, typically 1.37 to 3 ft. (0.5 to 1 m) tall. The leaves form a subtle zig-zag pattern as the leaf blades come off the stem at an angle. Flowers are dull green, very small, and occur on wispy spikes on the ends of the leafy stems with usually only a few flower clusters forming per clump of grass. Little is known about the life history of Florida pineland crabgrass including pollination biology, seed production, or dispersal. The plant produces flowers from summer to late fall on both new and older growth, some plants have been observed to finish seeding as late as December. The plant occurs between the seasonally flooded ecotone of pine rocklands and marl prairies, although the species may overlap somewhat into both habitats. The species can withstand inundation of freshwater for one to several months each year. Pine rocklands and marl prairies are maintained by regular fire, and are prone, particularly marl prairie, to annual flooding for several months during the wet season (82 FR 46693; October 6, 2017).

Florida pineland crabgrass occurred historically within central and southern Miami-Dade County along the Miami Rock Ridge, from southern Miami to the Long Pine Key region of ENP. A single plant was discovered in 1995 within marl prairie habitat at the Martinez Pinelands in the Richmond Pine rocklands. However, this plant has since disappeared. Three other historical occurrences in Miami-Dade County have been documented: (1) a site between Cutler and Longview Camp; (2) Jenkins Homestead; and (3) south Miami. However little is known regarding the status of these populations. The current range of Florida pineland crabgrass includes ENP and BCNP. Surveys suggest the species occurs throughout Long Pine Key of ENP, and is much wider ranging than previously known within ENP. Florida pineland crabgrass is widely distributed within the Lostmans Pines region of BCNP in Monroe County as well. Surveys in 2002 documented the presence of Florida pineland crabgrass within BCNP within this area, representing the first known occurrence of the species outside Miami-Dade County. Subsequent surveys for the species within BCNP have documented up to nine occurrences, some of which contain an estimated 500-600 plants. Surveys conducted within the Gum Slough region of Lostmans Pines indicated that the species is widely distributed in the region with a total of 2,365 plants counted within pineland and sawgrass based survey plots. The range wide population estimate for Florida pineland crabgrass is 100,000 to 200,000 individuals at Long Pine Key and greater than 10,000 individuals within BCNP (82 FR 46695; October 6, 2017). Populations remain abundant within ENP and BCNP. Declines of the plant have been attributed to habitat loss from fire suppression or inadequate fire management. Threats from other natural or manmade factors include nonnative, invasive plants; management practices (such as mowing); recreation (including ORV use), effects from small population size and isolation; limited geographic range; and stochastic events including hurricanes, storm surges, and wildfires.

Florida pineland crabgrass has the potential to occur within the pine rocklands of ENP on Long Pine Key. In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP will have no effect on Florida pineland crabgrass. Florida pineland crabgrass was a candidate species at the time consultation was completed with the USFWS on the 2014 CEPP PIR/EIS. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December

21, 2018 from the USFWS, however, since then, the Corps has determined that CEPP South may affect, but is not likely to adversely affect Florida pineland crabgrass based on potential changes in water levels in Long Pine Key as a result of the Proposed Action. Reference **Section 6.3.2.9**.

#### **6.3.2.12 Florida Prairie Clover and “May Affect Not Likely to Adversely Affect” Determination**

The Florida prairie clover was listed as endangered by the USFWS on October 6, 2017 (82 FR 46691). The Florida prairie clover is a short-lived (less than 8 years) perennial shrub that is 2.6 to 9.8 ft (0.8 to 3.0 m) tall with a light brown woody stem and non-woody, light brown or reddish branches. The leaves are composed of 9 to 15 oval, gland-tipped leaflets, and are gland-dotted on the underside. The flowers are in small loose heads at ends of hairy, glandular stalks, less than 0.4 in long. The flower color is white and maroon; each of the petals is different lengths and shapes. The fruit is a small one-seeded pod, mostly enclosed by the hairy, gland-dotted calyx. The Florida prairie clover grows in pine rockland, rockland hammock, marl prairie, and coastal berm, and in the ecotones between these habitats. The species may also occur along roadsides within these habitats. The life history of the plant appears to be short-lived (less than 8 years) with a persistent seed bank. The plant produces flowers from October to March and fruit ripen from November to April. Seed maturation is January to May with a peak in February to March. The plants can withstand partial inundation with fresh water for a portion of the year, but do not tolerate salinity (82 FR 46691; October 6, 2017).

The historical range of the plant includes Miami-Dade, Monroe, Collier, and Palm Beach Counties. The current range includes BCNP, three Miami-Dade conservation areas, and three additional unprotected lands within the Cutler Bay region of Miami-Dade County. In 1999, the plant was rediscovered within BCNP. Subsequent surveys of the four extant populations on BCNP occurred after this time. Surveys confirmed the presence of the plant in two locations within BCNP. The first being an area north of Oasis Visitor Center which contained 236 plants (of various ages) and represents the largest extant population within BCNP. The second extant population was confirmed in the Pinecrest region (along Loop Road) of BCNP, a historical location within the Preserve; however, only 17 plants were encountered. The plant was not found at 11-Mile Road, nor at a second location along Loop Road, during the surveys (82 FR 46694; October 6, 2017). Recent surveys have documented its presence along the entry road to Mahogany Hammock, due west of Long Pine Key. Declines of the plant have been attributed to habitat loss from fire suppression or inadequate fire management. Threats from other natural or manmade factors include nonnative, invasive plants; management practices (such as mowing); recreation (including ORV use), effects from small population size and isolation; limited geographic range; and stochastic events including hurricanes, storm surges, and wildfires.

The Florida prairie clover has the potential to occur within the pine rocklands of ENP on Long Pine Key. In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP will have no effect on the Florida prairie clover. The Florida prairie clover was a candidate species at the time consultation was completed with the USFWS on the 2014 CEPP PIR/EIS. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS, however, since then, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the Florida prairie clover based on potential changes in water levels in Long Pine Key as a result of the Proposed Action. Reference **Section 6.3.2.9**.

### 6.3.2.13 Pineland Sandmat and “May Affect Not Likely to Adversely Affect” Determination

The pineland sandmat was listed as threatened by the USFWS on October 6, 2017 (82 FR 46691). The pineland sandmat is an ascending to erect perennial herb. The stems are hairy and often reddish. The leaf blades range from kidney shaped or triangle shaped and elliptic to oval. The fruit is 2 mm broad and seeds are 1 mm long transversely wrinkled and yellowish in color. Little is known about the life history of the plant, but it is believed to be somewhat long lived. Fruit production is year round with a peak in the fall. The plant occurs in pine rocklands. Pine rocklands are maintained by regular fire, and are prone to annual flooding for several months during the wet season; however the pineland sandmat generally occurs in higher elevation pine rocklands at Long Pine Key in ENP, in areas rarely subject to flooding. The plant can stand partial inundation with fresh water for a portion of the year but does not tolerate salinity. The pineland sandmat occurred historically only within the southern portion of the Miami Rock Ridge from Homestead to the Long Pine Key region of ENP. The pineland sandmat has been encountered consistently within Long Pine Key, as well as Miami-Dade County owned conservation lands adjacent to ENP. The total population size is estimated to be between 15,500 to 146,000 individuals, with the majority of the population occurring on Long Pine Key at the time of listing (82 FR 46697; October 6, 2017). Pine rockland fragments outside of the Everglades represent about half of the subspecies extend range; however the subspecies is most abundant within ENP. Declines of the plant have been attributed to habitat loss from fire suppression or inadequate fire management. Threats from other natural or manmade factors include nonnative, invasive plants; management practices (such as mowing); recreation (including ORV use), effects from small population size and isolation; limited geographic range; and stochastic events including hurricanes, storm surges, and wildfires.

The pineland sandmat has the potential to occur within the pine rocklands of ENP on Long Pine Key. In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP will have no effect on Florida pineland crabgrass. Pineland sandmat was a candidate species at the time consultation was completed with the USFWS on the 2014 CEPP PIR/EIS. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS, however, since then, the Corps has determined that CEPP South may affect, but is not likely to adversely affect pineland sandmat based on potential changes in water levels in Long Pine Key as a result of the Proposed Action. Reference **Section 6.3.2.9**.

### 6.3.2.14 Blodgett’s Silverbush and “May Affect Not Likely to Adversely Affect” Determination

Blodgett’s silverbush was listed as threatened by the USFWS on September 29, 2016 (81 FR 66842). Blodgett’s silverbush is an erect, perennial shrub or herb that is 4 to 24 inches tall (10 to 60 centimeters) with a woody base and small, green flowers. The stems and leaves are covered with small hairs. The leaves are arranged alternately along the stems and are long and are oval or elliptic in shape and often are colored a distinctive, metallic bluish green when dried. The fruit is a woody capsule which contains the seeds. Flowering and fruiting occur throughout the year (80 FR 58536; September 29, 2015). The plant occurs in pine rocklands, in sunny gaps or edges of rockland hammock and coastal berm, and on roadsides. Blodgett’s silverbush historically occurred from central and southern Miami-Dade County from Brickell Hammock to Long Pine Key in ENP, and in Monroe County throughout the Florida Keys from Totten Key south to Key West. Blodgett’s silverbush is currently known from central Miami-Dade County from Coral Gables and southern Miami-Dade County to Long Pine Key southwest to Boca Chica Key. The decline of the plant can be largely attributed to loss of pine rocklands habitat to development and modification of this habitat due to inadequate fire management. Habitat loss, fragmentation, and degradation, and associated pressures from increased human population, are major threats. Hurricanes and storm surge

have also impacted population levels. Other threats include competition from non-native plants, management practices on roadsides and disturbed sites (mowing, sodding and herbicide use) and small population size (80 FR 58536; September 29, 2015).

Blodgett's silverbush has the potential to occur within the pine rocklands of ENP on Long Pine Key. In the 2013 CEPP BA and 2018 CEPP BA, the Corps previously determined that CEPP will have no effect on Blodgett's silverbush. Blodgett's silverbush was a candidate species at the time consultation was completed with the USFWS on the 2014 CEPP PIR/EIS. Concurrence on this determination was previously received with receipt of the 2014 Programmatic BO and in correspondence dated December 21, 2018 from the USFWS, however, since then, the Corps has determined that CEPP South may affect, but is not likely to adversely affect Blodgett's silverbush based on potential changes in water levels in Long Pine Key as a result of the Proposed Action. Reference **Section 6.3.2.9**.

#### **6.3.2.15 Everglade Snail Kite and Critical Habitat and "May Affect" Determination**

A wide-ranging, New World raptor, the snail kite is found primarily in lowland freshwater marshes in tropical and subtropical America from Florida, Cuba, and Mexico, and south to Argentina and Peru (USFWS 1999). The Florida and Cuban subspecies of the Everglade snail kite, *R. sociabilis plumbeus*, was initially listed as endangered in 1967 due to its restricted range and highly specific diet (USFWS 1999). Its survival is directly tied to the hydrology, water quality, vegetation composition and structure within the freshwater marshes that it inhabits (Martin et al. 2008, Cattau et al. 2008).

Everglade snail kite habitat consists of freshwater marshes and the shallow vegetated edges of lakes where the apple snail (*Pomacea paludosa*), the Everglade snail kite's main food source, can be found. Snail kite populations in Florida are highly nomadic and mobile; tracking favorable hydrologic conditions and food supplies, and thus avoiding local droughts. Snail kites move widely throughout the primary wetlands of the central and southern portions of Florida. Recent snail kite nesting locations within south Florida are depicted in **FIGURE 3**. The Everglades snail kite is threatened primarily by habitat loss and destruction. Widespread drainage has permanently lowered the water table in some areas. This drainage permitted development in areas that were once Everglade snail kite habitat. In addition to loss of habitat through drainage, large areas of marsh are heavily infested with water hyacinth, which inhibits the Everglade snail kite's ability to see its prey.

The Everglade snail kite has a highly specialized diet typically composed of apple snails, which are found in palustrine, emergent, long-hydroperiod wetlands. As a result, the Everglade snail kite's survival is directly dependent on the hydrology and water quality of its habitat (USFWS 1999). Snail kites require foraging areas that are relatively clear and open in order to visually search for apple snails. Suitable foraging habitat for the Everglade snail kite is typically a combination of low profile marsh and a mix of shallow open water. Shallow wetlands with emergent vegetation such as spike rush (*Eleocharis spp.*), maidencane, sawgrass, and other native emergent wetland plant species provide good Everglade snail kite foraging habitat as long as the vegetation is not too dense to locate apple snails. Dense growth of plants reduces the ability of the Everglade snail kite to locate apple snails and their use of these areas is limited even when snails are in relatively high abundance (Bennetts et al. 2006). Areas of sparse emergent vegetation enable apple snails to climb near the surface to feed, breathe, and lay eggs and thus they are easily seen from the air by foraging Everglade snail kites. Suitable foraging habitats are often interspersed with tree islands or small groups of scattered shrubs and trees which serve as perching and nesting sites.

Snail kite nesting primarily occurs from December to July, with a peak in February-June, but can occur year-round. Nesting substrates include small trees such as willow, cypress (*Taxodium spp.*), and pond apple, and herbaceous vegetation such as sawgrass, cattail, bulrush (*Scirpus validus*), and reed (*Phragmites australis*). Snail kites appear to prefer woody vegetation for nesting when water levels are adequate to inundate the site (USFWS 1999). Nests are more frequently placed in herbaceous vegetation during periods of low water when dry conditions beneath willow stands (which tend to grow to at higher elevations) prevent Everglade snail kites from nesting in woody vegetation (USFWS 1999). Nest collapse is rare in woody vegetation but common in non-woody vegetation, especially on lake margins (USFWS 1999). In order to deter predators, nesting almost always occurs over water (Sykes et al. 1995).

Snail kites construct nests using dry plant material and dry sticks, primarily from willow and wax myrtle (Sykes 1987), with a lining of green plant material that aids in incubation (USFWS 1999). Courtship includes male displays to attract mates and pair bonds form from late November through early June (USFWS 1999). Snail kites will lay between one and five eggs with an average of about three eggs per nest (Sykes 1995, Beissinger 1988). Each egg is laid at about a two-day interval with incubation generally commencing after the second egg is laid (Sykes 1987). Both parents incubate the eggs for a period of 24 to 30 days (Beissinger 1983). Hatching success is variable between years and between watersheds, but averages 2.3 chicks/nest (USFWS 1999, Cattau et al. 2008). February, March, and April have been identified as the most successful months for hatching (Sykes 1987). Snail kites may nest more than once within a breeding season and have been documented to re-nest after both failed and successful nesting attempts (Sykes 1987, Beissinger 1988). Chicks are fed by both parents through the nestling period although ambisexual mate desertion has been documented (USFWS 1999). Young fledge at approximately 9 to 11 weeks of age (Beissinger 1988). Adults forage no more than 6 kilometers from the nest, and generally less than a few hundred meters (Beissinger 1988, USFWS 1999). When food is scarce or ecological and hydrologic conditions are unfavorable, adults may abandon the nest altogether (Sykes et al. 1995).

The persistence of the Everglade snail kite in Florida depends upon maintaining hydrologic conditions that support the specific vegetative communities that compose their habitat along with sufficient apple snail availability across their range each year (Martin et al. 2008). Historically, WCA 3A has been a critical component within the Everglade snail kites' wetland network for foraging and reproduction. High water levels during the wet season are important in maintaining quality wet prairie and emergent slough habitat (USFWS 2010). High water levels and extended hydroperiods have resulted in vegetation shifts within WCA 3A, degrading Everglade snail kite critical habitat. This vegetation transition directly affects Everglade snail kites in several ways, most importantly by reducing the amount of suitable foraging and nesting habitat, and reducing prey abundance and availability. Wetter conditions reduce the amount of woody vegetation within the area upon which Everglade snail kites rely for nesting and perch hunting. In addition, prolonged hydroperiods reduce habitat structure in the form of emergent vegetation, which is critical for apple snail aerial respiration and egg deposition (Turner 1996, Darby et al. 1999). Drying events are essential in maintaining the mosaic of vegetation types needed by a variety of wetland fauna (Sklar et al. 2002), including the Everglade snail kite (USFWS 2010) and its primary food source, the apple snail (Karunaratne et al. 2006, Darby et al. 2008). However, little annual variation in water depths has occurred within WCA 3A since 1993, virtually eliminating the drying events necessary to maintain this mosaic. This is particularly apparent in southwestern WCA 3A, which has experienced excessive ponding in recent years.

Low water levels have an effect on Everglade snail kite nest success in WCA 3A (Cattau et al. 2008). If water levels become too low and food resources become too scarce, adults will abandon their nest sites

and young (Sykes et al. 1995). Predation on nests is also higher when water levels are low. A strong relationship exists between annual minimum stage and juvenile Everglade snail kite survival rate (Martin et al. 2007, Cattau et al. 2008). Due to their inability to move large distances, juvenile Everglade snail kites rely upon the marshes surrounding their nests for foraging. If water levels within these marshes become too low to support foraging (due to low apple snail availability), juvenile survival will be diminished.

Recent scientific information has indicated that apple snail egg production is maximized when dry season low water levels are less than 50 cm (was previously 40 centimeters) but greater than 10 cm (Darby et al. 2002, USFWS 2010). Water depths outside this range can significantly affect apple snail recruitment and survival. If water levels are less than 10 cm, apple snails cease movement and may become stranded, hence they are not only unavailable to foraging Everglade snail kites; they are also unable to successfully reproduce. Depending upon the timing and duration of the dry down, apple snail recruitment can be significantly affected by the truncation of annual egg production and stranding of juveniles (Darby et al. 2008). Since apple snails have a 1.0 to 1.5-year life span (Hanning 1979, Ferrer et al. 1990, Darby et al. 2008), they only have one opportunity (i.e. one dry season) for successful reproduction. Egg cluster production may occur from February to November (Odum 1957, Hanning 1979, Darby et al. 1999); however, approximately 77% of all apple snail egg cluster production occurs between April and June (Darby et al. 2008). Dry downs during peak apple snail egg cluster production substantially reduce recruitment (Darby et al. 2008). The length of the dry down, age, and size of the apple snail are all important factors in apple snail recruitment and survival. Larger apple snails can survive dry downs better than smaller apple snails (Kushlan 1975, Darby et al. 2008).

#### **6.3.2.15.1 Potential Effects to the Everglade Snail Kite**

Evaluation of potential effects to Everglade snail kites within the 2013 CEPP BA (and referenced in the 2018 CEPP South BA) included adaptations of ERTM PMs, including depth and recession rate requirements for Everglade snail kites and apple snails, along with an Apple Snail Population Model (SFNRC 2013b). The Apple Snail Population Model describes the dynamics of the apple snail population as a function of hydrology and temperature. Reference Figure 6-14 and Figure 6-15 from the 2013 CEPP BA. Results from the Apple Snail Model indicated that implementation of CEPP was predicted to provide better conditions for apple snail populations as compared to the ECB and FWO Project Condition within WCA 3A, WCA 3B and ENP. In addition to the Apple Snail Population Model, the Everglades Landscape Vegetation Succession model (ELVeS) was utilized in the 2013 CEPP BA (and referenced in the 2018 CEPP South BA) in order to analyze anticipated changes in vegetation that may affect nesting and foraging habitat for Everglade snail kites (South Florida Natural Resources Center 2013c). Suitable foraging habitat for the Everglade snail kite is typically a combination of low profile marsh and a mix of shallow open water. For the 2013 CEPP BA, ELVeS was run with nine freshwater marsh/wet prairie communities: (1) open water, (2) open marsh, (3) floating emergent marsh, (4) sawgrass, (5) spikerush, (6) marl prairie, (7) cattail, (8) pineland, and (9) wet scrubland. Reference Figure 6-16 and Figure 6-17 from the 2013 CEPP BA. Results of the modeling indicated that at the broad landscape scale there were few large community changes predicted to occur within most of the CEPP action area. The largest changes were predicted to occur within northwest WCA 3A where increased water deliveries to northern WCA 3A resulted in a decreased wet scrubland community and subsequent increase in sawgrass. Effects of the Blue Shanty flowway in WCA 3B and NESRS were observed as sawgrass within these areas was replaced with floating emergent marsh and open marsh. Deeper water vegetation communities were expected to expand in WCA 3A along the L-67 and L-29 Canals (SFNRC 2013b). Model results did predict an expansion of open water habitat within southern WCA3A where Everglade snail kites are currently known to nest and forage potentially decreasing suitable habitat within this area. However, since the Everglade snail kite is a wide-ranging

species, the 2013 CEPP BA anticipated that these effects would be offset by increases in suitable nesting and foraging habitat throughout the remainder of the CEPP action area. Reference Section 6.2.6 of the 2013 CEPP BA for additional information (USACE 2013).

Hydrologic changes associated with implementation of the project are expected to alter and provide an overall net beneficial effect on Everglade snail kite and apple snail habitat throughout the action area. Implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA; however CEPP South would likely show a reduced beneficial effect in WCA 3B and ENP as additional water (*i.e.* 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future. Furthermore, operations of the CEPP South features are expected to be subject to current downstream constraints consistent with ALTQ+ (COP Preferred Plan), which include maintaining the maximum operating limit in the L-29 Canal at or below a specified stage and maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. The L-29 Canal stage is anticipated to be limited to below that identified within the 2014 Final CEPP PIR/EIS which assumed a maximum operating limit of 9.7 feet, NGVD. A potential increase in hydroperiods within WCA 3B and ENP may provide an overall net benefit for Everglade snail kites and apple snail habitat. Increases in volume into NESRS provide an opportunity for improved vegetation, including expansion of sloughs and wet prairies, and contraction of sawgrass ridges which would provide increased foraging and nesting habitat for Everglade snail kite and apple snail. The hydrologic effects presented within the 2014 CEPP Final PIR/EIS represent the combined effects from implementation of the A-2 FEB, the L-6 Diversion, the northern WCA 3A hydropattern restoration components along the L-4 Levee and Canal, the Miami Canal Backfill (north of Interstate 75), and the new or expanded WCA 3A outlet structures along L-67A, along with the associated operations. Within northwest WCA 3A (Gage 3A\_NW), compared to the FWO, stages were predicted to significantly increase by 0.6 -0.8 feet for the CEPP Recommended Plan. Stages within northeast WCA 3A (Gage 3A\_NE) were predicted to significantly increase by 0.4-0.7 feet, with no significant change during extreme wet conditions and a slight increase in stage for extreme dry conditions (3A\_NE). Within east-central WCA 3A (Gage 3A-3), stages were predicted to significantly increase by 0.2-0.5 feet, with no significant change during the wettest 20% of conditions. Proceeding south within central WCA 3A (Gage 3A-4), stages were predicted to generally increase by 0.1-0.2 feet during average to dry conditions, with a slight depth reduction during the wettest 10% of conditions and no significant change during extreme dry conditions. Southern WCA 3A (3A-28) stages were predicted to decrease by 0.1-0.2 feet during the wettest 5% of conditions and slightly decrease during normal to dry conditions. Reference Appendix C.2.2.7 of the 2014 CEPP Final PIR/EIS. Potential changes in hydrology (and effects on the Everglade snail kite) within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. Under COP, the L-29 Canal stage is anticipated to be limited to 8.5 feet, NGVD consistent with the operational guidance defined in Appendix A of the 2020 COP EIS (refer to **Section 4**. ALTQ+ increased overland flow, water depths and resulting hydroperiods in portions of ENP, including NESRS and Taylor Slough (USACE 2019). Reference Section D.2.4.2 of the 2019 COP BA for a description of expected differences in water depths and hydroperiods under ALTQ+ in WCA 3 and ENP. Further detail is provided in Section D.2.6.2.8 of the 2019 COP BA for potential effects to Everglade snail kite and is incorporated by reference.

For the proposed COP, the same Apple Snail Population Model was used to evaluate potential effects on the Everglade snail kite within the study area. Figure D.2-62 through Figure D.2-63 in the 2019 COP BA depicts apple snail adult population numbers for a wet year (1995) and a dry year (2004). Results are shown for adult snails (>20 mm) during the spring of a dry year (April 20), before that year's reproductive period. Changes in apple snail population numbers were observed within the boundaries of designated

critical habitat for the Everglade snail kite. During a wet year, ALTQ would increase apple snail population numbers in portions of southern WCA 3A and ENP on the flanks of NESRS; however decreases were observed within portions of eastern WCA 3B. During a dry year, similar pattern were observed; however potential decreases in apple snail population numbers appeared to be of greater magnitude, where they occurred within the study area. Figure D.2-64 in the 2019 COP BA illustrates means of daily percent change in total apple snail population relative to ECB19RR by year for the COP area of interest. ALTQ improved apple snail production in six out of the 11 years, respectively. Observed differences between ALTQ and ECB19RR were most often not more than a  $\pm 10\%$  change.

Furthermore, under CEPP South, approximately 1,003 acres would be managed to enhance flow by reconnecting historic sloughs. This would be accomplished with active vegetation management through use of herbicides (glyphosate) to remove sawgrass that has encroached historic sloughs. Application of herbicides may influence the density of submerged and emergent vegetation in these areas, influencing foraging suitability by allowing snail kites to move through the habitat and detect prey. Only a one time application of glyphosate is expected to occur. Potential effects apple snail populations may be minimal. Application of the herbicide is expected to reduce the sawgrass, creating a more open canopy to allow for periphyton growth. The treated area is expected to become more of a functioning slough in terms of movement of water across the landscape.

For the COP, ELVes was also used. Figure D.2-65 through Figure D.2-67 in the 2019 COP BA illustrate change in vegetation communities relative to ECB19RR for a representative wet year (1995), dry year (1989) and an average year (1978). Changes in vegetation primarily were observed to occur in northern WCA 3A east of the Miami Canal, in portions of WCA 3B, in southern WCA 3A and in portions of ENP including NESRS and Taylor Slough. Decreases in floating emergent marsh were observed in portions of WCA 3A adjacent to the L-67A/C levee. Results of the modeling indicated that at the broad landscape scale there were few large community changes predicted to occur within most of the action area.

In addition to the Apple Snail Population Model and ELVes, an ESA incidental take trigger developed during consultation between the Corps and the USFWS for the 2016 ERTTP BO was also used to evaluate potential effects on the Everglade snail kite for the proposed COP. The 2016 ERTTP BO includes exceedance criteria that are linked to habitat quality as a surrogate for incidental take of snail kites. Per the 2016 ERTTP BO, those exceedance criteria are as follows: (1) Dry Season High Water: Number of days when maximum water levels exceed 9.2 feet, NGVD at gauge 3AS3W1 on or after April 15 in two consecutive years; (2) Wet Season High Water: Number of days maximum water levels exceed 10.5 feet, NGVD at gauge 3AS3W1 for 60 days in two consecutive years (June 1 – December 31); and (3) Recession Dry Season Amplitude: WCA 3A stage difference as measured at specific gages should not recede by more than 1.7 feet, NGVD from January 1 through May 31 or the onset of the wet season, whichever is sooner as measured in two consecutive years.

USFWS requested that these exceedance criteria be utilized during hydrologic modeling for the COP to understand potential effects on the Everglade snail kite within WCA 3A. High water stages may reduce the abundance, growth, and reproduction of apple snails and reduce woody vegetation that kites use for nesting and perch-hunting. Depending on the amount of lost snail productivity and the initial snail population size, a single year of high water during the dry season can result in long-term impacts to apple snail populations and decrease numbers of snail kite nest initiations, nest success, and juvenile survival in an area, as has been observed in WCA 3A. Rapid recession rates during the breeding season can also result in decreased nest success (through increased predation or decreased forage availability) and decreased juvenile survival (due to decreased forage availability) (USFWS 2016). Table D.2-26 in the 2019

COP BA shows the number of times in the period of record (1965-2005) when maximum water levels exceed 9.2 feet, NGVD at gage 3AS3W1 on or after April 15 in two consecutive years. ALTQ reduced the number of years the threshold was exceeded relative to ECB19RR by three events. The number of times in the period of record (1965-2005) when maximum water levels exceed 10.5 feet, NGVD at gage 3AS3W1 for 60 days (June 1-December 31) in two consecutive years for ALTQ did not deviate from ECB19RR. ALTQ performed equivalent to ECB19RR. ALTQ reduced the number of years over the period of record (1965-2005) the WCA 3A stage difference receded by more than 1.7 feet, NGVD from January 1 through May 31 in a given year at gages 3A-4 and 3AS3W1, however the exceedance criteria was increased under ALTQ at gages 3A28 and W2..

The implementation of the Proposed Action is expected to influence wetland hydroperiods causing changes in foraging suitability for Everglade snail kite. Under CEPP South, the Corps will continue to evaluate how water management operations may be conducted to maximize beneficial effects for the Everglade snail kite. The Corps proposes specific minimization as part of CEPP South including species and habitat monitoring to identify population trends for the Everglade snail kite currently being conducted in compliance with the 2016 ERTB BO (USFWS 2016) and consistent with that proposed in the 2019 COP BA. Upon construction completion and operation of CEPP South features, the Corps will continue to implement PSC to provide real-time assessment of conditions in the study area to ensure wildlife recommendations are considered during the water management decision process. In addition, the Corps will continue to implement PSC to provide real-time assessment of conditions within the action area to ensure wildlife recommendations are considered during the water management decision process. Based upon the current information, the Corps' determination is that the Proposed Action may affect the Everglade snail kite and its designated critical habitat and is thus requesting formal consultation under ESA for this species.

#### **6.3.2.16 Wood Stork and "May Affect" Determination**

The wood stork is a large, white, long-legged wading bird that relies upon shallow, freshwater wetlands for foraging. Black primary and secondary feathers, a black tail and a blackish, featherless neck distinguish the wood stork from other wading birds species. This species was federally listed as endangered under the ESA on February 28, 1984 (49 FR 7332). On June 30, 2014 (79 FR 37077), USFWS reclassified the status of wood stork from endangered to threatened due to improvement in the species overall status. Although habitat loss and fragmentation continue to impact the species, the USFWS cited that due to increases in abundance of the breeding population as well as a significant expansion of its breeding range, there is a decrease in the severity and magnitude of these threats. Therefore, this species is no longer in danger of extinction throughout their range and has been reclassified as threatened. No critical habitat has been designated for the wood stork; therefore, none will be affected.

The wood stork is found from northern Argentina, eastern Peru and western Ecuador north to Central America, Mexico, Cuba, Hispaniola, and the southeastern United States (AOU 1983). Only the population segment that breeds in the southeastern United States is listed as threatened. In the United States, this species is historically known to nest in all coastal states from Texas to South Carolina (Wayne 1910; Bent 1926; Howell 1932; Oberholser 1938; Dusi and Dusi 1968; Cone and Hall 1970; Oberholser and Kincaid 1974). Dahl (1990) estimates these states lost about 38 million acres, or 45.6 percent, of their historic wetlands between the 1780s and the 1980s. However, it is important to note wetlands and wetland losses are not evenly distributed in the landscape. Hefner et al. (1994) estimated 55 percent of the 2.3 million acres of the wetlands lost in the southeastern United States between the mid-1970s and mid-1980s were

located in the Gulf-Atlantic coastal flats. These wetlands were strongly preferred by wood storks as nesting habitat.

The decline in the United States population of the wood stork is thought to be related to one or more of the following factors: (1) reduction in the number of available nesting sites; (2) lack of protection at nesting sites; and (3) loss of an adequate food base during the nesting season (Ogden and Nesbitt 1979). Ogden and Nesbitt (1979) indicate a reduction in nesting sites is not the cause in the population decline, because the number of nesting sites used from year to year is relatively stable. Ogden and Nesbitt suggest loss of an adequate food base is a cause of wood stork declines. The primary cause of the wood stork population decline in the United States is loss of wetland habitats or loss of wetland function resulting in reduced prey availability. Almost any shallow wetland depression where fish become concentrated, either through local reproduction or receding water levels, may be used as feeding habitat by the wood stork during some portion of the year; but only a small portion of the available wetlands support foraging conditions (high prey density and favorable vegetation structure) that wood storks need to maintain growing nestlings. Browder et al. (1976) and Browder (1978) documented the distribution and the total acreage of wetland types occurring south of Lake Okeechobee, Florida, for the period 1900 through 1973. They combined their data for habitat types known to be important foraging habitat for wood storks (cypress domes and strands, wet prairies, scrub cypress, freshwater marshes and sloughs, and saw grass marshes) and found these habitat types have been reduced by 35 percent since 1900. Currently, wood stork nesting occurs in Florida, Georgia, South Carolina, and North Carolina.

Wood storks forage primarily within freshwater marsh and wet prairie vegetation types, but can be found in a wide variety of wetland types, as long as prey are available and the water is shallow and open enough to hunt successfully (Ogden et al. 1978; Browder 1984; Coulter 1987; Gawlik and Crozier 2004; Herring and Gawlik 2007). Calm water, about 5 to 25 centimeters in depth, and free of dense aquatic vegetation is ideal, however, wood storks have been observed foraging in ponds up to 40 centimeters in depth (Coulter and Bryan 1993; Gawlik 2002). Typical foraging sites include freshwater marshes, ponds, hardwood and cypress swamps, narrow tidal creeks or shallow tidal pools, and artificial wetlands such as stock ponds, shallow, seasonally flooded roadside or agricultural ditches, and managed impoundments (Coulter et al. 1999; Coulter and Bryan 1993; Herring and Gawlik 2007). During nesting, these areas must also be sufficiently close to the colony to allow wood storks to efficiently deliver prey to nestlings.

Wood storks feed almost entirely on fish between 2 and 25 centimeters (1 to 10 inches) in length (Kahl 1964; Ogden et al. 1976; Coulter 1987) but may occasionally consume crustaceans, amphibians, reptiles, mammals, birds, and arthropods. Wood storks generally use a specialized feeding behavior called tactilocation, or grope feeding, but also forage visually under some conditions (Kushlan 1979). Wood storks typically wade through the water with their beaks immersed and open about 7 to 8 centimeters (2.5 to 3.5 inches). When the wood stork encounters prey within its bill, the mandibles snap shut, the head is raised, and the food swallowed (Kahl 1964). Occasionally, wood storks stir the water with their feet in an attempt to startle hiding prey (Rand 1956; Kahl 1964; Kushlan 1979). This foraging method allows them to forage effectively in turbid waters, at night, and under other conditions when other wading birds that employ visual foraging may not be able to forage successfully.

Studies on fish consumed by wood storks have shown that wood storks are highly selective in their feeding habits with sunfish and four other species of fish comprising the majority of their diet (Ogden et al. 1976). Ogden et al. (1976, 1978) noted that the key species consumed by wood storks included sunfishes (*Centrarchidae*), yellow bullhead (*Italurus natalis*), marsh killifish (*Fundulus confluentus*), flagfish (*Jordenella floridae*) and sailfin molly (*Poecilia latipinna*).

These species were also observed to be consumed in much greater proportions than they occur at feeding sites, and abundant smaller species (e.g., mosquitofish (*Gambusia spp.*), least killifish (*Heterandria formosa*), bluefin killifish (*Lucania goodei*) are under-represented, which the researchers believed was probably because their small size does not elicit a bill-snapping reflex in these tactile feeders (Coulter et al. 1999). Their studies also showed that in addition to selecting larger species of fish, wood storks consumed individuals that are significantly larger (greater than 3.5 centimeters) than the mean size available (2.5 centimeters), and many were greater than one-year old (Ogden et al. 1976; Coulter et al. 1999).

Hydrologic and environmental characteristics have strong effects on fish density, and these factors may be some of the most significant in determining foraging habitat suitability, particularly in southern Florida. Within the wetland systems of southern Florida, the annual hydrologic pattern is very consistent, with water levels rising over three feet during the wet season (June-November), and then receding gradually during the dry season (December-May). Wood storks nest during the dry season, and rely on the drying wetlands to concentrate prey items in the ever-narrowing wetlands (Kahl 1964). Because of the continual change in water levels during the wood stork nesting period, any one site may only be suitable for wood stork foraging for a narrow window of time when wetlands have sufficiently dried to begin concentrating prey and making water depths suitable for storks to access the wetlands (Gawlik 2002; Gawlik et al. 2004). Once the wetland has dried to where water levels are near the ground surface, the area is no longer suitable for wood stork foraging, and will not be suitable until water levels rise and the area is again repopulated with fish. Consequently, there is a general progression in the suitability of wetlands for foraging based on their hydroperiods, with the short hydroperiod wetlands being used early in the season, the mid-range hydroperiod sites being used during the middle of the nesting season, and the longest hydroperiod areas being used later in the season (Kahl 1964; Gawlik 2002).

Dense submerged and emergent vegetation may reduce foraging suitability by preventing wood storks from moving through the habitat and interfering with prey detection (Coulter and Bryan 1993). Some submerged and emergent vegetation does not detrimentally affect wood stork foraging, and may be important to maintaining fish populations. Wood storks tend to select foraging areas that have an open canopy, but occasionally use sites with 50 to 100 percent canopy closure (Coulter and Bryan 1993; Coulter et al. 1999). Foraging sites with open canopies are more easily detected from overhead as wood storks are searching for food. Gawlik (2002) characterized wood storks as “searchers” that employ a foraging strategy of seeking out areas of high density prey and optimal (shallow) water depths, and abandoning foraging sites when prey density begins to decrease below a particular efficiency threshold, but while prey was still sufficiently available that other wading bird species were still foraging in large numbers (Gawlik 2002). Wood stork choice of foraging sites was significantly related to both prey density and water depth (Gawlik 2002). Because of this strategy, wood stork foraging opportunities are more constrained than many of the other wading bird species (Gawlik 2002).

Wood storks generally forage in wetlands between 0.5 kilometer and 74.5 kilometer away from the colony site (Bryan and Coulter 1987; Herring and Gawlik 2007), but forage most frequently within 10-20 kilometer (12 miles) of the colony (Coulter and Bryan 1993; Herring and Gawlik 2007). Maintaining this wide range of feeding site options ensures sufficient wetlands of all sizes and varying hydroperiods are available, during shifts in seasonal and annual rainfall and surface water patterns, to support wood storks. Adults feed farthest from the nesting site prior to laying eggs, forage in wetlands closer to the colony site during incubation and early stages of raising the young, and then farther away again when the young are able to fly. Wood storks generally use wet prairie ponds early in the dry season then shift to slough ponds later in the dry season thus following water levels as they recede into the ground (Browder 1984).

Wood stork nesting habitat consists of mangroves as low as 1 meter (3 feet), cypress as tall as 30.5 meters (100 feet), and various other live or dead shrubs or trees located in standing water (swamps) or on islands surrounded by relatively broad expanses of open water (Palmer 1962; Rodgers et al. 1987; Ogden 1991; Coulter et al. 1999). Wood storks nest colonially, often in conjunction with other wading bird species, and generally occupy the large-diameter trees at a colony site (Rodgers et al. 1996). The same colony site will be used for many years as long as the colony is undisturbed and sufficient foraging habitat remains in the surrounding wetlands. However, not all wood storks nesting in a colony will return to the same site in subsequent years (Kushlan and Frohring 1986). Natural wetland nesting sites may be abandoned if surface water is removed from beneath the trees during the nesting season (Rodgers et al. 1996). In response to this type of change to nest site hydrology, wood storks may abandon that site and establish a breeding colony in managed or impounded wetlands (Ogden 1991). Wood storks that abandon a colony early in the nesting season due to unsuitable hydrological conditions may re-nest in other nearby areas (Borkhataria et al. 2004; Crozier and Cook 2004).

The wood stork life history strategy has been characterized as a “bet-hedging” strategy (Hylton et al. 2006) in which high adult survival rates and the capability of relatively high reproductive output under favorable conditions allow the species to persist during poor conditions and capitalize on favorable environmental conditions. This life-history strategy may be adapted to variable environments (Hylton et al. 2006) such as the wetland systems of southern Florida. Nest initiation date, colony size, nest abandonment, and fledging success of a wood stork colony vary from year to year based on availability of suitable wetland foraging areas, which can be affected by local rainfall patterns, regional weather patterns, and anthropogenic hydrologic management (USFWS 1997; Frederick and Ogden 2001). While the majority of wood stork nesting occurs within traditional wood stork rookeries, a handful of new wood stork nesting colonies are discovered each year (Meyer and Frederick 2004; SFWMD 2004, 2009). These new colony locations may represent temporary shifts of historic colonies due to changes in local conditions, or they may represent formation of new colonies in areas where conditions have improved.

Breeding wood storks are believed to form new pair bonds every season. First age of breeding has been documented in 3- to 4-year-old birds but the average first age of breeding is unknown. Eggs are laid as early as October in south Florida and as late as June in north Florida (Rodgers 1990; USFWS 1999). A single clutch of two to five (average three) eggs is laid per breeding season but a second clutch may be laid if a nest failure occurs early in the breeding season (Coulter et al. 1999). There is variation among years in the clutch sizes, and clutch size does not appear to be related to longitude, nest data, nesting density, or nesting numbers, and may be related to habitat conditions at the time of laying (Frederick 2009; Frederick et al. 2009). Egg laying is staggered and incubation, which lasts approximately 30 days, begins after the first egg is laid. Therefore, the eggs hatch at different times and the nestlings vary in size (Coulter et al. 1999). In the event of diminished foraging conditions, the youngest birds generally do not survive.

The young fledge in approximately eight weeks but will stay at the nest for three to four more weeks to be fed. Adults feed the young by regurgitating whole fish into the bottom of the nest about three to ten times per day. Feedings are more frequent when the birds are young (Coulter et al. 1999). When wood storks are forced to fly great distances to locate food, feedings are less frequent (Bryan et al. 1995). The total nesting period from courtship and nest-building through independence of young, lasts approximately 100 to 120 days (Coulter et al. 1999). Within a colony, nest initiation may be asynchronous, and consequently, a colony may contain active breeding wood storks for a period significantly longer than the 120 days required for a pair to raise young to independence. Adults and independent young may continue to forage around the colony site for a relatively short period following the completion of

breeding. Appropriate water depths for successful foraging are particularly important for newly fledged juveniles (Borkhataria et al. 2008).

Wood storks produce an average of 1.29 fledglings per nest and 0.42 fledglings per egg which is a probability of survivorship from egg laying to fledgling of 46 percent (Rodgers and Schwikert 1997). However, in 2009, which was a banner year for nesting, over 2.6 young fledged from successful nests (Frederick et al. 2009). The greatest losses occur from egg laying to hatching with a 30 percent loss of the nest productivity. From hatching to nestlings of two weeks of age, nest productivity loss is an additional 8 percent. Corresponding losses for the remainder of the nesting cycles are on the average of a six percent per two week increase in age of the nestling (Rodgers and Schwikert 1997).

Receding water levels are necessary in south Florida to concentrate suitable densities of forage fish (Kahl 1964; Kushlan 1979) to sustain successful wood stork nesting. During the period when a nesting colony is active, wood storks are dependent on consistent foraging opportunities in wetlands within their core foraging area (30 kilometer radius) surrounding a nest site. The greatest energy demands occur during the middle of the nestling period, when nestlings are 23 to 45 days old (Kahl 1964). The average wood stork family requires 201 kilograms (443 pounds) of fish during the breeding season, with 50 percent of the nestling stork's food requirement occurring during the middle third of the nestling period (Kahl 1964). Although the short hydroperiod wetlands support fewer fish and lower fish biomass per unit area than long hydroperiod wetlands, these short hydroperiod wetlands were historically more extensive and provided foraging areas for wood storks during colony establishment, courtship and nest-building, egg-laying, incubation, and the early stages of nestling provisioning. This period corresponds to the greatest periods of nest failure (i.e. 30 % and 8%, respectively from egg laying to hatching and from hatching to nestling survival to two weeks) (Rodgers and Schwikert 1997).

The annual climatological pattern that appears to stimulate the heaviest nesting efforts by wood storks is a combination of the average or above-average rainfall during the summer rainy season prior to colony formation and an absence of unusually rainy or cold weather during the following winter-spring nesting season. This pattern produces widespread and prolonged flooding of summer marshes that maximizes production of freshwater fishes, followed by steady drying that concentrates fish during the dry season when storks nest (Kahl 1964; Frederick et al. 2009). However, frequent heavy rains during nesting can cause water levels to increase rapidly. The abrupt increases in water levels during nesting, termed reversals (Crozier and Gawlik 2004), may cause nest abandonment, re-nesting, late nest initiation, and poor fledging success.

Following the completion of the nesting season, both adult and fledgling wood storks generally begin to disperse away from the nesting colony. In southern Florida, both adult and juvenile wood storks consistently disperse northward following fledging in what has been described as a mass exodus (Kahl 1964). Both adult and juvenile wood storks return southward in the late fall and early winter months.

#### **6.3.2.16.1 Potential Effects to the Wood Stork**

Wood storks nest in response to the availability of prey fish across southern Florida. Large expanses of seasonally flooded marsh coupled with consistent drydown patterns are key for concentrating prey fish and successful nesting seasons. The availability of small fish that are seasonally concentrated on the landscape during drying periods is a key factor in determining reproductive success. Preservation and/or restoration of natural hydrologic processes is critical to the survival of the wood stork, as it depends on open water to support its nesting, roosting, and foraging sites. The generally accepted explanation for

the decline of the wood stork is the reduction in food base (primarily small fish) necessary to support breeding colonies. This reduction is attributed to loss of wetland habitat as well as to changes in water hydroperiods from draining wetlands and changing water regimes by constructing levees, canals, and floodgates to alter water flow in south Florida.

Several models of wading birds were used to assess potential affects to wading birds within the Greater Everglades as a result of implementation of CEPP within the 2013 CEPP BA (and referenced in the 2018 CEPP south BA) including wading bird species distribution (Beerens 2013). Reference Figures 6-20 through Figures 6-23 of the 2013 CEPP South BA. Results from Beerens 2013 indicated that wood storks would more frequently use areas of northern WCA 3A, WCA 3B, and southern ENP under CEPP compared to the ECB and FWO Project Condition. Wading bird use was predicted to increase for wood stork colonies previously and/or currently located within WCA 3B (3B Mud East), along Tamiami Trail (Tamiami Trail East 1, Tamiami Trail East 2, and Tamiami Trail West), and for several colonies located in ENP (Grossman West, Rookery Branch). Wading bird use was predicted to remain stable or decrease for several colonies located in southern WCA 3A adjacent to L-28 (Crossover, Jetport, Jetport South, Hidden); however the 2013 CEPP BA noted the potential for these wood stork colonies to utilize adjacent areas where foraging and habitat suitability are increasing. Reference Section 6.2.7 of the 2013 CEPP BA for additional information (USACE 2013).

The hydrologic effects presented within the 2014 CEPP Final PIR/EIS represent the combined effects from implementation of the A-2 FEB, the L-6 Diversion, the northern WCA 3A hydropattern restoration components along the L-4 Levee and Canal, the Miami Canal Backfill (north of Interstate 75), and the new or expanded WCA 3A outlet structures along L-67A, along with the associated operations. Total net structural inflows to NESRS (via the L-29 Canal), computed as the sum of S-333, S-355A, S-355B, L-29 Levee Gap, and S-356 minus S-334) were predicted to significantly increase to 761,000 acre feet with implementation of the CEPP Recommended Plan, compared to the FWO (94,000 acre feet average annual). Stages were predicted to significantly increase by 0.5-0.9 feet under all hydrologic conditions at NESRS-2 within northeast ENP with similar trends also observed further south at the NESRS-1 monitoring gage. Average annual overland flow to NESRS across RSM-GL Transect 18 (southward flows in northern ENP south of Tamiami Trail and east of the L-67 Extension) was also predicted to significantly increase to 754,000 acre feet under the CEPP Recommended Plan compared to the FWO (75,000 acre feet average annual).

The 2014 CEPP Final PIR/EIS included three new inflow structures to WCA 3B along L-67A (in addition to increased capacity at S-333), resulting in an additional WCA 3B inflow design capacity of 1500 cfs. Compared to the FWO, average annual combined structural inflows to WCA 3B from WCA 3A were predicted to significantly increase from 327,000 acre feet in the FWO to 544 thousand acre feet under the CEPP Recommended Plan. The WCA 3B outflow configuration for the CEPP Recommended Plan included the removal of the L-29 Levee within the Blue Shanty flowway. The CEPP Recommended Plan, with the Blue Shanty flowway and L-29 Levee Gap, were predicted to achieve significant north-to-south surface water flow directionality within WCA 3B only in the spatial footprint of the Blue Shanty flowway. The CEPP FWO included the existing S-151 gated culvert as the sole structural inflow to WCA 3B (327,000 acre feet average annual) and the existing S-355 A and B spillways as the only structural outflows from WCA 3B (2,000 acre feet average annual). Compared to the FWO, average annual combined structural outflows from WCA 3B to the L-29 Canal and ENP NESRS were predicted to significantly increase from less than 2 thousand acre feet in the FWO to 240,000 acre feet with more than 99 percent of these WCA 3B outflows in discharged across the L-29 Levee degrade within the Blue Shanty flowway. For the CEPP Recommended Plan, the peak stage within the Blue Shanty flowway was predicted at 9.70 feet NGVD, with stages

exceeding 8.0 feet NGVD for approximately 42% of the period of simulation. Peak stages within central WCA 3B (Site 71) were predicted to exceed 9.0 feet NGVD for only 15 days (0.10%) of the RSM-GL 1965-2005 period of simulation for the CEPP Recommended Plan, and WCA 3B stages were predicted to be above 8.0 feet NGVD for approximately 22-24% of the period of simulation relative to the FWO.

Western Shark River slough (WSRS) located to the west of L-67 Extension Levee and bounded on the north by Tamiami Trail, is primarily influenced by rainfall and water management operations at the S-12 structures (A, B, C and D). Compared to the FWO, within northwest ENP (NP-201) stages were predicted to significantly decrease under the CEPP Recommended Plan by 0.1-0.3 feet under both wet and dry hydrologic conditions while stages were predicted to slightly increase or remain unchanged from the FWO for normal hydrologic conditions between approximately 35% and 55% on the stage duration curve. Changes to the average annual overland flows to WSRS across RSM-GL Transect 17 (southward flows in northern ENP south of Tamiami Trail and west of the L-67 Extension) were predicted to significantly decrease from 369,000 acre feet average annual under the FWO to 319 thousand acre feet. To the south and west, stages at the NP-205 monitoring gage (used as an indicator for CSSS-A hydrology) were predicted to significantly decrease in stage by 0.1- 0.2 feet under all hydrologic conditions for the CEPP. Reference Appendix C.2.2.7 of the 2014 CEPP Final PIR/EIS.

Since features authorized within CEPP South remain unchanged, implementation of CEPP South would result in similar effects as discussed within the 2013 CEPP BA and 2018 CEPP BA; however CEPP South would likely show a reduced beneficial effect in WCA 3B and ENP as additional water (*i.e.* 210,000 acre-feet) is not anticipated to be delivered until CEPP New Water and CEPP South features are completed in the future. Furthermore, operations of the CEPP South features are expected to be subject to current downstream constraints consistent with ALTQ+ (COP Preferred Plan), which include maintaining the maximum operating limit in the L-29 Canal at or below a specified stage and maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. Potential changes in hydrology within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. Potential changes in hydrology within the action area under CEPP South, will be similar to those modeled to support development of ALTQ+ (COP Preferred Plan) as plan formulation efforts for the COP were confined to the existing water budget for inflows to WCA 3A from upstream basins. Under COP, the L-29 Canal stage is anticipated to be limited to 8.5 feet, NGVD consistent with the operational guidance defined in Appendix A of the 2020 COP EIS (refer to **Section 4**). ALTQ+ increased overland flow, water depths and resulting hydroperiods in portions of ENP, including NESRS and Taylor Slough (USACE 2019). Reference Section D.2.4.2 of the 2019 COP BA for a description of expected differences in water depths and hydroperiods under ALTQ+ in WCA 3 and ENP. Further detail is provided in Section D.2.6.2.9 of the 2019 COP BA for potential effects to the wood stork and is incorporated by reference.

For the proposed COP, an ecological planning tools was available to evaluate potential effects on wading birds in the study area. The Wading Bird Distribution Evaluation Model (WADEM) was utilized to determine spatially-explicit changes in high quality foraging conditions for wading birds (Beerens et al 2015a, Beerens et al 2015b, and Cook and Kobza 2009). Figure D.2-70 in the 2019 COP BA shows the mean spatial foraging conditions index over the months of March and April over the years 1975-2005 and the percent change between ALTQ and ECB19RR for the wood stork. Observed differences between ALTQ and ECB19RR were most often not more than a  $\pm 10\%$  change across the majority of WCA 3 and ENP. Improvements in foraging conditions were observed in NESRS. Figure D.2-71 in the COP BA shows percent change in mean daily foraging index for the wood stork for each year in the modeled period of record.

ALTQ improved the mean daily foraging index with the exception of six years in the 31 year period of record.

In addition to WADEM, an ESA incidental take trigger developed during consultation between the Corps and the USFWS for the 2016 ERTF BO was utilized during plan formulation for the COP. The 2016 ERTF BO includes a reinitiation trigger that evaluates water depths greater than 16 inches (41 cm) from March 1 through May 31 throughout WCA 3A as measured by the two gauge average (based upon a ground surface elevation of 8.4 feet NGVD) at gauges 3A-3 (Site 63) and 3A-4 (Site 64). Per the 2016 ERTF BO, incidental take will be exceeded if operations results in a water depth greater than 16 inches (41 centimeters) from March 1 through May 31 throughout WCA 3A for two consecutive years. The annual hydrologic pattern in south Florida is consistent, with water levels rising during the wet season (June through October), then receding gradually during the dry season (November to May).

Wood storks nest during the dry season and rely on the drying wetlands to concentrate prey items for optimal foraging. Once the wetland has dried to where water levels are near the ground surface, the area is no longer suitable for wood stork foraging and will not be suitable again until water levels rise and the area is repopulated with fish. Wood storks prefer calm water, approximately 2 to 16 inches deep and free of dense vegetation for foraging (Coulter and Bryan 1993). More recently, Beerens and Cook (2010) defined a foraging depth range of -0.31 to 1.34 ft. (-9.33 to 41.26 cm) for wood storks feeding in WCA 3A. A water depth greater than 16 inches (41 cm) across WCA 3A during the nesting season would lower the suitability of foraging habitat to the point where the ability for wood storks to forage would be severely impaired and most likely result in widespread abandonment of nests and fledglings within the affected colony (USFWS 2016). Table D.2-25 in the 2019 COP BA shows the number of times in the period of record (1965-2005) when water depths exceeded 16 inches (41 cm) from March 1 through May 31 throughout WCA 3A in two consecutive years as measured by the two gage average (based upon a ground surface elevation of 8.4 feet NGVD) at gages 3A-3 and 3A-4. ALTQ reduced the number of times the threshold was exceeded relative to ECB19RR by six.

Historically, short hydroperiod wetlands have been important for wood stork foraging during the pre-breeding season with the storks shifting to longer hydroperiod wetlands as the dry season progresses. Hydrologic patterns that produce a maximum number of patches with high prey availability (*i.e.* high water levels at the end of the wet season and low water levels at the end of the dry season) are necessary for high reproductive outputs (Gawlik 2002, Gawlik et al. 2004). Implementation of CEPP South may produce a variety of wetland habitats that would support prey densities conducive to successful wading bird foraging and nesting. Sufficient foraging opportunities are anticipated to remain in other areas to offset any poor foraging conditions that may result from CEPP South. Furthermore, under CEPP South, approximately 1,003 acres would be managed to enhance flow by reconnecting historic sloughs. This would be accomplished with active vegetation management through use of herbicides (glyphosate) to remove sawgrass that has encroached historic sloughs. Application of herbicides may influence the density of submerged and emergent vegetation in these areas, influencing foraging suitability by allowing wood storks to move through the habitat and detect prey. Only a one time application of glyphosate is expected to occur. Potential effects to marsh fish may be minimal. Application of the herbicide is expected to reduce the sawgrass, creating a more open canopy to allow for periphyton growth. The treated area is expected to become more of a functioning slough in terms of movement of water across the landscape.

It should be noted, however, that with CEPP South, a levee will be constructed within WCA 3B that will result in the permanent loss of wood stork foraging habitat as well as habitat connectivity. Construction

of the Blue Shanty levee will result in the loss of approximately 113 acres of wetland habitat within WCA 3B. However, the construction of other project features, including the degradation of existing levees and the backfilling of canals will result in an increase of acres of wetland habitat within the action area; resulting in wetlands that may be suitable for foraging. Under CEPP South, approximately 4.0 miles of the east-west agricultural ditch would be backfilled in the Blue Shanty Flowway to improve southerly flow conveyance to the L-29 Canal (**FIGURE 3**) and may also be suitable for foraging. Approximately 1.37 miles are expected to be backfilled under Contract 1.

Hydrologic changes associated with implementation of the project are expected to alter and provide an overall net benefit for wood stork foraging suitability throughout the action area by improving foraging in Everglades National Park and Water Conservation Area 3B. Any, potential impacts to the wood stork as a result of operations will be minimized or avoided under CEPP South. The Corps will continue to evaluate how water management operations may be conducted to maximize beneficial effects for the wood stork. The Corps proposes specific minimization as part of CEPP South including species and habitat monitoring to identify population trends for the wood stork currently being conducted in compliance with the 2016 ERTF BO (USFWS 2016) and consistent with that proposed in the 2019 COP BA. Upon construction completion and operation of CEPP South features, the Corps will continue to implement PSC to provide real-time assessment of conditions in the study area to ensure wildlife recommendations are considered during the water management decision process. The Corps would implement construction conservation measures as outlined in the *Habitat Management Guidelines for the Wood Stork in the southeast Region* to minimize impacts resulting from construction of CEPP South features consistent with the commitment provided in the 2018 CEPP South BA.

The implementation of the Proposed Action is expected to influence wetland hydroperiods causing changes in foraging suitability for wood storks. Based upon the current information, the Corps' determination is that the Proposed Action may affect the wood stork and is thus requesting formal consultation under ESA for this species.

## 7 CUMULATIVE EFFECTS

Cumulative effects are those effects include the effects of future State or private activities, not involving Federal activities, which are reasonable certain to occur within the action area of the Federal action subject to consultation (50 C.F.E. 402.02). In this section, the Corps has included an even broader discussion on cumulative effects, including those effects that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. The following summarizes past, present, and projected Corps efforts that cumulatively affect the regional environment of south Florida **TABLE 7**. In addition, there are efforts underway by other Federal, State, and local agencies, as well as non-governmental organizations that are all working towards similar restoration goals. **TABLE 8** shows the net cumulative effects of the various resources which are directly or indirectly impacted. CEPP South is expected to contribute to a net beneficial cumulative impact on the regional ecosystem, providing benefits to WCA 3B and ENP by increasing flows.

It should be noted, that the Corps is finalizing ESA consultation with the USFWS concerning the project for ecosystem restoration, Central and Southern Florida, Everglades Agricultural Area, Florida. In section 1308(a) of the Water Resources Development Act (WRDA) of 2018, Congress authorized the Everglades Agricultural Area (EAA) ecosystem restoration project in accordance with section 601 of the WRDA of 2000, as recommended in the addendum to the Central Everglades Planning Project Post Authorization

Change Report (PACR), Feasibility Study and Draft Environmental Impact Statement prepared by the SFWMD and dated May 2018, with such modifications as the Secretary of the Army considers appropriate. This authorization modified the New Water implementation phase of CEPP. The Corps prepared a BA that identified potential effects on listed species pertaining only to the EAA ecosystem restoration project features that differ from CEPP; namely conversion of the CEPP A-2 FEB to a deep storage reservoir (A-2 Reservoir), and conversion of 3,000 acres of upland agricultural land to a STA (A2-STA). In section 1308(b) of WRDA 2018, Congress directed that the project may be constructed only after the Secretary of the Army prepares a report that addresses the concerns, recommendations, and conditions identified in the Assistant Secretary of the Army for Civil Works (ASA (CW)) Review Assessment of the CEPP PACR dated May 2018. The Corps is in the process of preparing a Final EIS and follow up report that address the Secretary’s concerns, recommendations and conditions. The Final EIS is anticipated to be released for public and State and Agency review in late January 2020. Ultimately, the A-2 Reservoir and STA are expected to replace the A-2 FEB in CEPP New Water, providing 370,000 average annual acre-feet of water delivered south, an increase of 160,000 average annual acre-feet of water delivered south over the amount provided by CEPP as authorized in 2016. The additional water provided south will be modeled with the design of CEPP North and will require an update to the CEPP DPOM.

**TABLE 7. PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS AND PLANS AFFECTING THE ACTION AREA**

-	<b>Past Actions and Authorized Plans</b>	<b>Current Actions and Operating Plans</b>	<b>Reasonably Foreseeable Future Actions and Plans</b>
Status of Non-CERP Projects	<ul style="list-style-type: none"> <li>- C&amp;SF Project (1948)</li> <li>- ENP Protection and Expansion Act (1989)</li> <li>- MWD GDM and Final EIS (1992)</li> <li>- C-111 South Dade GRR (1994)</li> </ul>	<ul style="list-style-type: none"> <li>- SFWMD Restoration Strategies Project</li> <li>- MWD 8.5 SMA GRR (2000)</li> <li>- MWD Tamiami Trail Modifications Limited Reevaluation Report (2008)</li> <li>- C&amp;SF C-51 West End Flood Control Project</li> <li>- Kissimmee River Restoration</li> <li>- Seepage Barrier near the L-31 N Levee (Miami-Dade Limestone Products Association)</li> <li>- Tamiami Trail Modifications Next Steps (TTMNS) Project, Phase 1</li> <li>- SFWMD Florida Bay Initiatives</li> <li>- C-111 South Dade Project (Contracts 8, 8A, and 9)</li> </ul>	<ul style="list-style-type: none"> <li>- SFWMD Complete Restoration Strategies Project</li> <li>- MWD Closeout</li> <li>- Tamiami Trail Modifications Next Steps (TTMNS) Project, Phase 2</li> </ul>
Operations Plan for Lake Okeechobee, WCA 3A, ENP and the SDCS	<ul style="list-style-type: none"> <li>- Water Supply and Environment (WSE) Lake Okeechobee</li> </ul>	<ul style="list-style-type: none"> <li>- Lake Okeechobee Regulation Schedule (LORS 2008)</li> <li>- SFWMD LEC Regional Water Supply Plan</li> </ul>	<ul style="list-style-type: none"> <li>- LORS 2008 to be replaced by the Lake Okeechobee System Operating Manual by 2022</li> <li>- SFWMD periodically revises the LEC Regional Water Supply Plan</li> </ul>

	<p>Regulation Schedule (2000) - IOP 2002 to 2012 ERTP</p>	<ul style="list-style-type: none"> <li>- E RTP October 2012 until replaced by COP; temporary planned deviations included Increment 1 and Increment 1.1 and 1.2 and 2 Operational Strategies</li> <li>- Herbert Hoover Dike Dam Safety Modification Study (HHD DSMS) risk reduction measures (2011 through 2022)</li> </ul>	
CERP Projects		<p>Congressional Authorization Received:</p> <ul style="list-style-type: none"> <li>- Broward County Water Preserve Areas Project</li> <li>- Caloosahatchee River (C-43) West Basin Storage Reservoir</li> <li>- Central Everglades Planning Project (CEPP), as modified by the project for ecosystem restoration, Central and Southern Florida, Everglades Agricultural Area, Florida</li> </ul> <p>Congressional Authorization Received and Construction in Progress:</p> <ul style="list-style-type: none"> <li>- Central Everglades Planning Projects (DOI removal of portions of Old Tamiami Trail roadway and SFWMD increased capacity of S-333N</li> <li>- Indian River Lagoon-South Project</li> <li>- Picayune Strand Restoration Project</li> <li>- Site 1 Impoundment Project</li> <li>- Biscayne Bay Coastal Wetlands Project Phase 1</li> <li>- C-111 Spreader Canal Western Project (operated by SFWMD)</li> </ul>	<p>Future CERP Projects:</p> <ul style="list-style-type: none"> <li>- Lake Okeechobee Watershed Restoration Project</li> <li>- Western Everglades Restoration Project</li> <li>- Biscayne Bay Coastal Wetlands Phase 2</li> <li>- C-111 Spreader Canal Project Phase 2</li> </ul>

**TABLE 8. SUMMARY OF CUMULATIVE EFFECTS**

<b>Hydrology</b>	
Past Actions	Flood and water control projects have greatly altered the natural hydrology.

Present Actions	Federal and state agencies are coordinating on and implementing projects to improve hydrology.
Proposed Action	The specific features of the CEPP Recommended Plan to be implemented in CEPP South will include the construction of conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay. The combined flows to NESRS are anticipated to be more than what would have otherwise been discharged to ENP relative to current conditions. Hydroperiods within WCA 3B and NESRS are expected to improve.
Future Actions	Additional CERP projects propose to restore hydrology to more natural conditions.
Cumulative Effect	Although it is unlikely that natural hydrologic conditions would be fully restored to pre-drainage conditions, improved hydrology would occur with implementation of the Proposed Action. CERP is expected to improve the quantity, quality, timing and distribution of freshwater flow.
<b>Threatened and Endangered Species</b>	
Past Actions	Water management practices and urbanization have resulted in the degradation of existing habitat function and direct habitat loss leading to negative population trends of threatened and endangered species.
Present Actions	ERTP implementation represents a paradigm shift from single species to multi-species management. ERTP includes performance measures specifically directed at managing water levels and releases for the protection of multiple species and their habitats within the project area.
Proposed Action	Effects determinations for Federally threatened and endangered species within the project area are listed within <b>TABLE 3</b> . The Corps acknowledges the potential usage and occurrence of the previously discussed threatened and endangered species and/or critical habitat within the CEPP South action area. Species and habitat monitoring will continue to identify population trends for the CSSS, snail kite, wood stork and the vegetation characteristic of their habitats currently being conducted in compliance with the 2016 ERTP BO (USFWS 2016a) and consistent with that proposed in the 2019 COP BA. The Corps also commits to implementing construction conservation measures as appropriate.
Future Actions	Ongoing projects would be implemented to maintain threatened and endangered species within the project area. It is anticipated that suitable CSSS habitat will be maintained under future restoration initiatives, but it may not occur with the current or historic footprints in some areas.
Cumulative Effect	Habitat improvement, monitoring and management of threatened and endangered species are anticipated to allow populations to be maintained. Improvement of degraded populations is expected to be facilitated by the restoration and enhancement of suitable habitat through efforts to restore more natural hydrologic conditions within the project area.
<b>Fish and Wildlife Resources</b>	
Past Actions	Water management practices have resulted in aquatic vegetation community changes and a resultant disruption of aquatic productivity and function that has had repercussions through the food web, including effects on wading birds, large predatory fishes, reptiles and mammals.
Present Actions	Ongoing efforts have been made by Federal and state agencies to implement projects to improve hydrology within the project area to restore habitat conditions for fish and wildlife resources.
Proposed Action	Increases in forage prey availability ( <i>i.e.</i> crayfish and other invertebrates, fish) resulting from improved hydroperiods would in turn provide beneficial effects for amphibian, reptile, small mammal, and wading bird species within WCA 3B and NESRS. Significant effects to fish and wildlife resources with Biscayne Bay and Florida Bay are not anticipated until the additional water ( <i>i.e.</i> 370,000 acre-feet) identified by the is delivered, when CEPP New Water components are constructed.
Future Actions	Some level of improvement to fish and wildlife resources is expected to occur as a result of implementation of projects with the capability of improving the timing, quantity, quality and distribution of freshwater flow to the study area. Hydrologic restoration planned as part of CERP would further improve fish and wildlife habitat.
Cumulative Effect	Habitat improvement efforts are anticipated to benefit fish and wildlife resources.

<b>Vegetation and Wetlands</b>	
Past Actions	Drainage of Florida's interior wetlands, conversion of wetlands to agriculture, and urban development has reduced the spatial extent and quality of wetland resources.
Present Actions	Efforts are being taken by state and Federal regulatory agencies to reduce wetland losses.
Proposed Action	Improved hydroperiods and sheetflow within WCA 3B and NESRS would result in reduced soil oxidation, promoting peat accretion necessary to rebuild the complex mosaic of habitat across the landscape. Increased hydroperiods within the eastern marl prairies may act to alleviate some of the problems associated with drier conditions. There are some minor, short term, adverse effects due to construction of some CEPP South features, most notably the Blue Shanty Levee in WCA 3B. However, the construction of other features, including the degradation of levees and the backfilling of canals, re-connects and adds wetland acreage and provides the needed topography for sheetflow to restore the natural system. The WCA 3B flowway achieves a central goal of CERP and of CEPP; restoration of continuous sheetflow, over long distances, and in the original flow directionality. The Proposed Action may have a beneficial effect on vegetative communities within WCA 3B and NESRS.
Future Actions	Some level of improvement to vegetative communities is expected to occur as a result of implementation of projects with the capability of improving the timing, quantity, quality and distribution of freshwater flow to the study area. More natural hydrology as part of the CERP would assist in restoring natural plant communities.
Cumulative Effect	While the spatial extent of natural plant communities would not be restored to historic proportions, the quality of vegetative communities would be improved.
<b>Water Quality</b>	
Past Actions	Water quality has been degraded from urban, suburban, commercial, industrial, recreational and agricultural development.
Present Actions	Efforts to improve water quality from agricultural areas are ongoing. Construction of Federal and state projects can temporarily elevate localized levels of suspended solids and turbidity.
Proposed Action	Water quality conditions in the vicinity of the L-29 Canal and L-31N Canal may be affected by implementation of the Proposed Action.
Future Actions	Actions by the State of Florida's Restoration Strategies are expected to decrease nutrient concentrations and loadings to the project area. In general there is a slowly improving trend in water quality entering and exiting the upstream WCA's.
Cumulative Effect	While anthropogenic effects on water quality are unlikely to be eliminated, water quality is expected to slowly improve. This is based on trends indicated by data analysis and the fact that Best Management Practices (BMP's) are continuing to reduce nutrient loading to the system.

## 8 CONSERVATION MEASURES

Species and habitat monitoring will continue to identify population trends for the CSSS, snail kite, wood stork and the vegetation characteristic of their habitats currently being conducted in compliance with the 2016 ERTF BO (USFWS 2016a) and consistent with that proposed in the 2019 COP BA. PSC will allow the Corps and its Tribal and governmental partners to discuss ecological, hydrological, and meteorological conditions to achieve the objective of managing water levels and releases for the protection of multiple species and their habitats. Regularly scheduled interagency calls allow the Corps to gather input on desired long-term (annual and/or seasonal) conditions within WCA 3 and ENP. In addition, the PSC occur on an as needed basis with the frequency of the calls determined based upon ongoing or anticipated conditions within the WCAs, SDCS, and ENP. The PSC focus on the status of a suite of species to allow for adaptive management of the system based upon the needs of multiple species and their habitats. Upon construction completion and operation of CEPP South features, the Corps will continue to implement PSC

to provide real-time assessment of conditions within the action area to ensure wildlife recommendations are considered during the water management decision process.

The DPOM that will be developed for CEPP South will continue to adhere to elements of the 2016 ERTTP RPA which mandate a seasonal closure period for S-12A, S-12B, S-343A, and S-343B from 01 October through 15 July with a high water strategy for WCA 3A which allows conditional operation of S-12A and S-12B during the months of October and November. However, consistent with the proposed COP, the CEPP South DPOM would include removal of the seasonal closures at S-344 and limited adjustments to the S-332D seasonal pump restrictions. Lifting of the S-344 closure dates and extending S-332D full pumping by an additional month, from November 30 to December 31, were based on coordination with the USFWS during development of the COP and will be carried forward into CEPP South.

The Corps will continue to evaluate how water management operations may be conducted to maximize beneficial effects for the CSSS. The Corps will continue to utilize best available methods to monitor and estimate the spatial and temporal extent of hydrologic conditions (water above or below ground surface) relative to the CSSS habitat targets (*i.e.* Dry Nesting Days and Discontinuous Hydroperiod) under CEPP South. The Corps will continue to implement provisions of the 2016 ERTTP BO which require the Corps to provide a report to the USFWS on the results of this monitoring at least twice annually to evaluate progress toward meeting the performance targets (USFWS 2016) consistent with that proposed in the 2019 COP BA upon construction completion and operation of CEPP South features. Bi-annual reports will evaluate nesting season conditions and include information such as the operations that occurred and their effectiveness, and the spatial and temporal extent of hydrologic conditions within each CSSS subpopulation (USFWS 2016).

The specific features of the CEPP Recommended Plan to be implemented in CEPP South will include the construction of conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay. As mentioned in the 2018 CEPP South BA, the Corps would implement construction conservation measures as outlined in the *Habitat Management Guidelines for the Wood Stork in the southeast Region* (USFWS 2009), standard protection measures for the manatee, and *Draft Standard Protection Measures for the Eastern Indigo Snake* (USFWS 2004) to avoid and minimize adverse effects on those species during construction activities. The Florida bonneted bat may occur in the action area. Pre-construction surveys would be conducted prior to clearing and construction in order to identify any potential roost sites. Monitoring for listed species that could occur in or around the project area during construction would be specified in the contract specifications. The USFWS concurred with this approach in prior correspondence dated December 21, 2018.

## 9 CONCLUSIONS

The Corps acknowledges the potential usage and occurrence of the previously discussed threatened and endangered species and/or the potential occurrence of critical habitat within the CEPP South action area. Based on available information, it is evident that the Florida panther, the Florida manatee, Florida bonneted bat, CSSS, snail kite, wood stork, American alligator, American crocodile, Eastern indigo snake, Garber's spurge, Bartram's hairstreak butterfly, Florida leafwing butterfly, Everglades bully, Florida pineland crabgrass, Florida prairie clover, pineland sandmat, and Blodgett's silverbush, resides, travels, and or forages within the CEPP South action area and could be affected by implementation of CEPP South. Other federally threatened or endangered species that are known to exist or potentially exist within the CEPP South action area that are not affected by the implementation of CEPP South include the piping plover, red-cockaded woodpecker, roseate tern, Miami blue butterfly, Schaus swallowtail butterfly, Stock

Island tree snail, crenulate lead-plant, Okeechobee gourd, Big Pine partridge pea, Cape Sable thoroughwort, Carters small-flowered flax, Florida brickell-bush, Florida bristle fern, Florida semaphore cactus, and sand flax. The Corps has determined that implementation of CEPP South will have no effect on these species.

Within the Greater Everglades, altered hydrology has led to degradation of the native vegetation communities, such as tree islands, sawgrass marsh mosaic, and marl prairies, and the expansion of undesirable cattail monocultures. As habitats have been degraded, abundance and diversity of wildlife populations have been affected as well. Restoration of sheetflow and historic hydropatterns within WCA 3 and ENP will result in beneficial shifts toward more desirable vegetation communities, landscape patterns, and animal populations. Wood storks would benefit from increased freshwater sheetflow due to an increased foraging base in WCA 3B and ENP under CEPP South. Changes in the quality, quantity, timing, and distribution of water under CEPP South provides opportunities for improved vegetation in WCA 3B, and ENP, including expansion of sloughs and wet prairies, and contraction of sawgrass prairies, thus benefiting the Everglades snail kite. Conversion back to sloughs and wet prairies would provide improved apple snail ascension rates and meet apple snail depth recommendations which support successful apple snail oviposition, a key factor in snail kite survival. Implementation of CEPP South is expected to provide more water to SRS and the eastern marl prairies. Increased hydroperiods within the eastern marl prairies may act to alleviate some of the problems associated with drier conditions and promote a shift in species community composition; however over inundation on the flanks of SRS may shift marl prairie communities to wetter habitats. Areas within the western marl prairies between the boundary of BCNP and ENP are currently considered to be too wet. Increased flows to NESRS through CEPP South may act to alleviate those conditions currently experienced by CSSS-Ax.

As identified within Section 9 of the 2016 ERTTP RPA, the USFWS recommended as a conservation recommendation, that the Corps continue to explore ways to increase the outlet capacity of WCA 3A and WCA 3B via the S-333 and S-355 structures, as authorized and envisioned as part of the MWD and CEPP projects to benefit listed species (USFWS 2016). The USFWS noted that improved capacity can be achieved by improving the S-355 and adding permanent pumps and/or by implementing the S-631, S-632, and S-633 structures proposed under CEPP to improve conditions for the CSSS and contribute towards the survival and recovery of the species. These conservation recommendations were proposed as a means to move water east and reduce the amount of water that currently flows over CSSS-A while still maintaining the eastern subpopulations (B-F). The movement of water towards the east into NESRS and further downstream into Taylor Slough was identified by the USFWS to not only provide benefits to CSSS-A but to also benefit drier parts of the eastern subpopulations and provide additional water to areas such as Florida Bay, which have experienced impacts from decreased freshwater flows. Consistent with conservation recommendations outlined with the 2016 ERTTP BA, implementation and operation of CEPP South would address the need to move more water east; providing greater flow through the S-333 structure into NESRS within ENP thus benefiting the CSSS and addressing the 2016 ERTTP Jeopardy Opinion. Furthermore, conservation actions are being taken by the Corps and others that are expected to improve habitat conditions for the CSSS in upcoming years. The Corps is proceeding with additional measures to further protect the CSSS which includes implementation of the COP by August 2020.

The Corps will continue discussions with the USFWS in the event of operational and or design modifications of CEPP South features if such modifications are proposed to occur in the future. The Corps will track implementation of CEPP South and communicate the status of all actions to the USFWS as appropriate through regular interagency discussions. ESA consultation will be reinitiated if appropriate under 50 CFR §402.16. For instance, if development of the CEPP South DPOM reveals effects of CEPP

South that may affect listed species or critical habitat in a manner or to an extent not considered in this 2020 CEPP South BA, the Corps will reinitiate ESA consultation as appropriate. This document is being submitted for formal consultation with the USFWS pursuant to Section 7 of the ESA.

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DEPARTMENT OF THE ARMY  
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Planning and Policy Division  
Environmental Branch

March 17, 2020

Mr. Larry Williams, Field Supervisor  
U.S. Fish and Wildlife Service  
1339 20<sup>th</sup> Street  
Vero Beach, FL 32960

Dear Mr. Williams:

The Jacksonville District, U.S. Army Corps of Engineers (Corps) provided a Biological Assessment (BA) for the Central Everglades Planning Project (CEPP) South components (CEPP South) on January 23, 2020 to the U.S. Fish and Wildlife Service (USFWS) in accordance with provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended. The Corps is providing this correspondence to amend the 2020 CEPP South BA based on coordination with the USFWS initiated on February 3, 2020, regarding the eastern black rail (*Laterallus jamaicensis jamaicensis*). The USFWS announced a 12 month petition finding on a petition to list the eastern black rail as threatened on October 9, 2018 (83 FR 50610) in the Federal Register. The eastern black rail has the potential to exist in the CEPP South study area based on its current range (Figure 1) and observation of the bird in Everglades National Park (ENP) (USFWS personnel communication).

The eastern black rail occupies portions of the eastern United States (east of the Rocky Mountains), Mexico, Central America, and the Caribbean (Figure 1). In the United States, eastern black rails are found in both coastal and interior areas, but the majority of detections are from coastal sites. Eastern black rails are found in a variety of salt, brackish, and freshwater marsh habitats that can be tidally or non-tidally influenced. Within these areas, the birds occupy relatively high elevations along heavily vegetated wetland gradients, with soils that are moist or flooded to a shallow depth (1 to 6 centimeters (cm)). Eastern black rails forage on a variety of small (< 1 cm) aquatic and terrestrial invertebrates, especially insects, and seeds. Occupied habitat tends to be primarily composed of fine-stemmed emergent plants (rushes, grasses, and sedges) with high stem and dense canopy cover. The eastern black rail requires dense vegetative cover that allows movement underneath the canopy, providing shelter and protection for nest sites. Flooding is a frequent cause of nest failure. Water levels must be below the nests during egg laying and incubation, which occurs from May to August, for nests to be successful.

CEPP South includes conveyance features that function to deliver and re-distribute existing water from Water Conservation Area (WCA) 3A to WCA 3B, and ENP. Due to increased water flow and changes in water distribution it is anticipated that currently over drained areas in ENP would be rehydrated. The eastern black rail uses the ecotone between emergent wetlands and upland grasslands as refugia during high water events cause by precipitation and tidal flooding. Eastern black rails require elevated refugia with dense cover to survive high water events due to the propensity of juvenile and adult black rails to walk and run rather than fly and due to the chick's inability to fly.

CEPP South is expected to benefit ENP by increasing flows to the area. As described throughout the 2020 CEPP South BA, the increase in stage and hydroperiods under CEPP South is unlikely to significantly affect higher elevations in ENP as operations of the CEPP South features are expected to be subject to current downstream constraints, consistent with ALTQ+ (Combined Operational Plan (COP) Preferred Plan) which include maintaining required water levels in the residential and agricultural areas in southeastern Miami-Dade County. The COP will define operations for water management infrastructure in the study area and serve as the baseline for initial water management operations in the CEPP South project area. The L-29 canal stage is anticipated to be limited to below that identified within the 2014 Final CEPP Project Implementation Report /Environmental Impact Statement which assumed a maximum operating limit of 9.7 feet, National Geodetic Vertical Datum of 1929 (NGVD). Based on this information, the Corps has determined that CEPP South may affect, but is not likely to adversely affect the eastern black rail. Reference the 2020 CEPP South BA for a description of expected differences in water depths and hydroperiods in WCA 3 and ENP. This determination is consistent with ESA correspondence to the USFWS on February 14, 2020 regarding effects determinations for the eastern black rail under the COP.

We request that the USFWS provide concurrence on the Corps species effect determinations and provide a Draft Biological Opinion (BO) within 90 days of the CEPP South BA provided on January 23, 2020, and provide a Final BO within 135 days from that date. If you have any questions or concerns please contact Ms. Melissa Nasuti by email [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil) or telephone 904-232-1368 regarding this consultation request.

Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

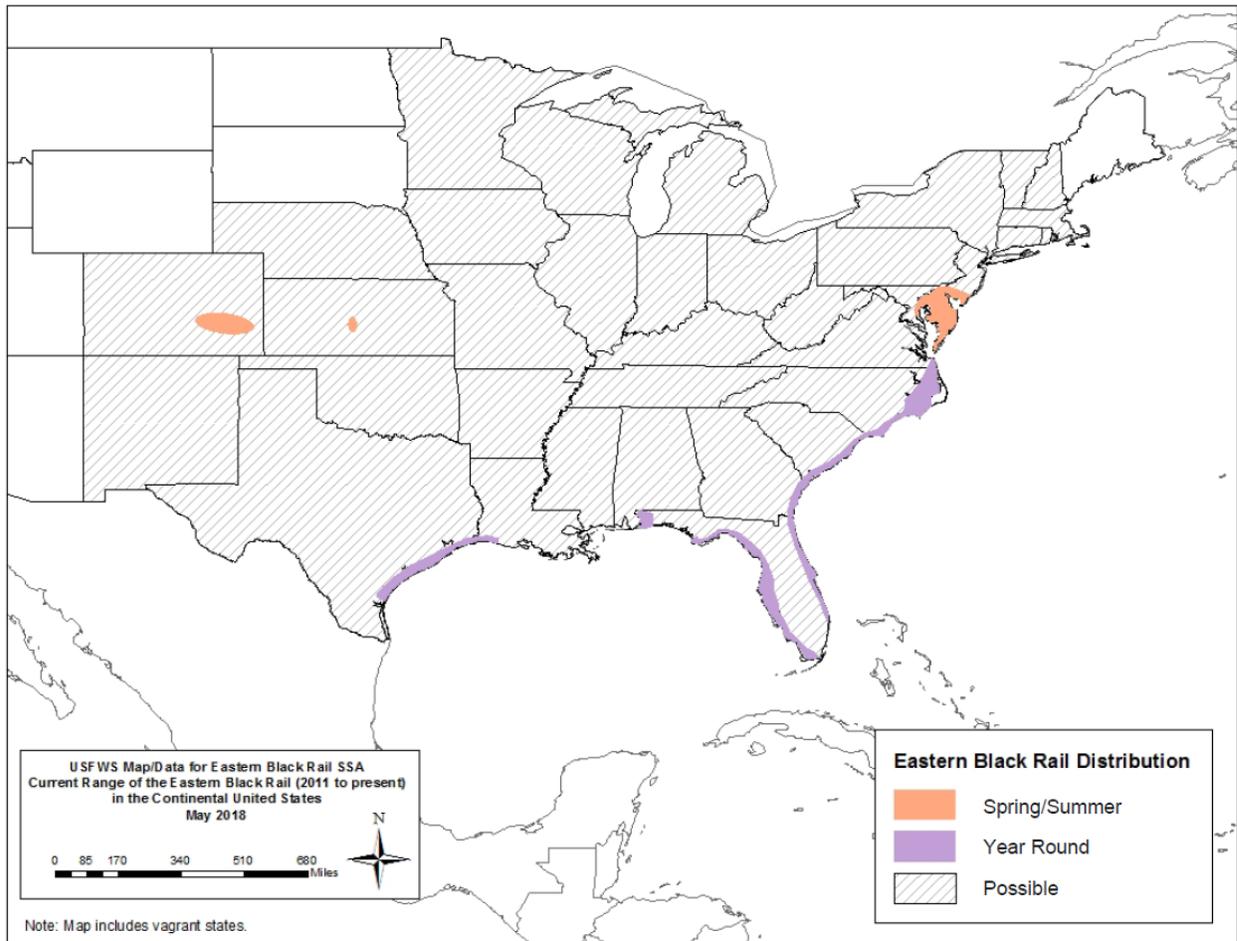
Enclosure

cc:

Mr. Donald Progulske, U.S. Fish and Wildlife Service, 1339 20<sup>th</sup> Street,  
Vero Beach, FL 32960

Mr. Miles Meyer, U.S. Fish and Wildlife Service, 1339 20<sup>th</sup> Street,  
Vero Beach, FL 32960

Mr. Kevin Palmer, U.S. Fish and Wildlife Service, 1339 20<sup>th</sup> Street,



**Figure 1. Current range of eastern black rail (Reference USFWS 2018. Species Status assessment report for the eastern black rail (*Laterallus jamaicensis jamaicensis*), Version 1.2. June 2018. Atlanta, GA.**



## United States Department of the Interior

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



April 14, 2020

Angela Dunn  
Environmental Branch Chief,  
Planning and Policy Division  
U.S. Army Corps of Engineers  
701 San Marco Blvd.  
Jacksonville, Florida 32207

Service Consultation Code: 04EF2000-  
202020-F-0536  
Date Received: January 23, 2020  
Project: Central Everglades Planning Project  
South

Dear Ms. Dunn:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Army Corps of Engineers' (Corps) transmittal letter requesting to reinitiate consultation and the accompanying Biological Assessment (BA) dated January 23, 2020 for the Central Everglades Planning Project South components (CEPP South). The Service has also reviewed the Corps' amendment to the BA dated March 3, 2020, and all subsequent correspondence. This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

### **General Comments**

In the Transmittal Letter dated January 23, 2020, the Corps stated that "Completion of a revised Draft Project Operating Manual (DPOM) for CEPP South and supporting National Environmental Policy Act documentation is anticipated to be complete by July 2020. If the DPOM shows CEPP South will have effects to listed species or critical habitat in a manner or an extent not considered in the BA, the Corps will reinitiate ESA consultation as appropriate under 50 CFR §402.16." Consequently, the BA provides an analysis of the hydrologic impacts that operations of the CEPP South features will have under the Combined Operational Plan (COP) (Corps 2020). The Preferred Plan (ALT Q+) from the 2019 COP BA was referenced within the BA to determine species effects determinations on Federally listed threatened and endangered species as a result of CEPP South implementation (Corps 2019). The Corps uses modeling results for ALT Q to describe these affects throughout the BA. The Service is currently evaluating the COP impacts to listed species under a separate consultation and requests the Corps' affirmation that the CEPP South operations will be within the purview and operational constraints of COP. Therefore, any incidental take that occurs due to CEPP South operations will be covered under the COP BO Incidental Take Statement until such time that either 1) new

information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered under the COP and/or 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered under the COP. For clarity, we recommend that the Corps clearly state in the BA that COP is part of the proposed action for CEPP South.

The BA lists all the CEPP South features in Table 1 (page 8), Figure 2 (page 9), and provides a description of these on pages 11 through 14. The new S-356 pump station is not listed on Figure 2. Similarly, the S-355W gated spillway is not listed in Table 1. Please provide corrected versions of Figure 2 and table listing all CEPP South features.

The BA states that the increased capacity of S-333 and the removal of Old Tamiami Trail are currently being pursued and constructed by the South Florida Water Management District (SFWMD) and the Everglades National Park (ENP), respectively. The S-333N construction began on September 2018 and has been substantially completed. The removal of the Old Tamiami Trail construction began January 2020 with final construction completion by January 2022. It is unclear why these projects are being included as part of this consultation request since these projects have already begun construction and been consulted upon under the CEPP Preliminary Biological Opinion (Service 2013a) and the Tamiami Trail Modifications: Next Steps Project (Service 2014; Service Consultation Code 41420-2010-F-0370) by the Corps and ENP, respectively. Therefore, these projects should be removed from the Project Description.

The BA provides a Table with the acres lost and the Habitat Impacts for CEPP South features and implementation of Adaptive Management and Monitoring Plan (AMMP) components but it does not include the acres or project footprints for the following components: S-333N, S-631, S-632, S-633, S-355W, and S-356. Table 4 on page 46 should be updated accordingly and the project footprint/dimensions for each component should be adequately described in pages 11 through 14.

The BA lists the operational constraints for CEPP South as defined by the COP on pages 17 and 18. The L-29 constraint of 8.5 ft for no longer than 90 days may be lifted after the Tamiami Trail Next Steps Final Phase is completed in 2023. Does the Corps plan on maintaining the L-29 constraint until a new operations plan is developed? Or, does the Corps plan on modifying operations and reinitiating consultation under CEPP South once construction is completed?

### **Active Vegetation Management Comments**

According to the BA, the proposed action includes active vegetation management within a 1,003-acre area of the Blue Shanty Flowway to enhance flow by reconnecting historic sloughs. The BA states that the active vegetation management would be accomplished through the use of herbicides (glyphosate). The Service requests responses to questions 1-8 below, as this additional information is necessary so the potential effects from the active vegetation management on listed species can be thoroughly evaluated:

- 1.) How will the glyphosate be applied (i.e.; hand-sprayers, aerial applicators, airboats, etc.);

- 2.) What time of year will the glyphosate applications occur, and will there be multiple treatments;
- 3.) If there are multiple treatments, how many, and what timeframe will they occur;
- 4.) Will the glyphosate be formulated with additives such as surfactants or dyes;
- 5.) If there will be formulation to the glyphosate, provide a list of the additives;
- 6.) Will dead vegetation, resulting from the vegetation management, decompose in the water;
- 7.) If dead vegetation will be left to decompose, what effect will it have to water quality (i.e.; will it reduce dissolved oxygen);
- 8.) Will the treatment include the spraying of native vegetation or just invasive species?

### **Cape Sable Seaside Sparrow Comments**

The Corps' transmittal letter requested formal consultation for the Cape Sable seaside sparrow and made a determination of "May Affect" but did not specify whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected." When the Federal action agency determines that a "*May affect, and Likely to Adversely Affect*" situation exists, the action agency is required to request formal consultation with the Service for those species.

The Corps' BA states on page 64 that, "The western marl prairies, where CSSS-A resides may experience a backwater effect due to increased flows in NESRS; however, this potential effect may be ameliorated by removal of the L-67 Extension Levee under CEPP South." There is no further analysis or explanation of how this may occur. The Service is concerned that operation of COP through the CEPP South infrastructure plan (e.g., removal of the L-67 extension levee) will change the flow volumes and patterns below the 2.6-mile bridge. Does modeling address this issue? The BA states in one location that the L-67 extension will not be backfilled (page 8, Table 1) and in another it states that it will (page 12, 6<sup>th</sup> bullet). Which is the case?

The Corps concludes the sparrow section in part with, "CEPP South may potentially raise groundwater levels in sensitive areas for the sparrow, therefore, hydrological changes associated with implementation of the action are expected to alter some of the physical and biological features essential to the nesting success and overall conservation of the subspecies. The implementation of the Proposed Action is expected to influence wetland hydroperiods causing changes in nesting and marl prairie suitability for the CSSS." It is not clear whether these hydrologic changes are a result of the construction of the CEPP South features or a result of the COP operations that will be in place. If these hydrologic changes are a result of the COP, then they should be addressed in the current COP Biological Opinion. If they are a result of the CEPP South features, then additional information will be required to determine their effect on the CSSS.

Our preliminary review of the Corps' proposed action, construction of the CEPP South features, indicates that a determination of "*May affect, is not likely to adversely affect*" may be appropriate for the sparrow based on its distance (approximately 9 miles) from the proposed footprint of the project. The Corps has assured the Service that any interim operations under

CEPP would be strictly controlled to match those under COP and therefore any incidental take of CSSS would be pursuant to the ITS in the Service's 2020 COP Biological Opinion.

### **Everglade Snail Kite Comments**

The Corps' transmittal letter requested formal consultation for the Everglade snail kite and made a determination of "May Affect" but did not specify whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected." When the Federal action agency determines that a "*May affect, and Likely to Adversely Affect*" situation exists, the action agency is required to request formal consultation with the Service for those species.

The BA does not identify conservation measures for the Everglade snail kite that will be implemented as part of the action to minimize potential adverse effects to the species. The Service requests for the Corps to consider incorporating the Service's *Standard Snail Kite Management Guidelines*. These guidelines recommend maintaining a 150-meter no-entry zone and a 500-meter limited activity zone around all active snail kite nests within the action area. The commitment to this conservation measure may support a "*May affect, is not likely to adversely affect*" determination for the Everglade snail kite.

### **Wood Stork Comments**

The Corps' transmittal letter requested formal consultation for the wood stork and made a determination of "May Affect" but did not specify whether the species is "not likely to be adversely affected" or "likely to be adversely affected." When the Federal action agency determines that a "*May affect, and Likely to Adversely Affect*" situation exists, the action agency is required to request formal consultation with the Service for those species.

The Service requires an analysis of foraging prey base losses and enhancements for projects with greater than 2.02 hectares (5 acres) of wetland impacts (Service 2010). The BA does not include a foraging analysis to evaluate the impacts from the construction of the CEPP South components and the active vegetation management activity. The Service requested this information by email on March 3, 2020 and March 17, 2020, respectively. The Corps provided the hydroperiod class information needed for this analysis by email on April 2, 2020. The Service will evaluate the Project effects to foraging prey base and foraging habitat based on this information.

The Corps stated that it will implement construction conservation measures as outlined in the Service's *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (Service 1990). These guidelines recommend maintaining a 229-meter (750 ft) protection zone around feeding sites when storks are present, 457-meter (1,500 ft) primary zone and a 762-meter (2,500 ft) secondary zone around all active wood stork nests within the action area. The commitment to this conservation measure may support a "*May affect, is not likely to adversely affect*" determination for the wood stork.

### **Eastern Indigo Snake Comments**

The Corps made a determination of “*May affect, but is not likely to adversely affect*” the eastern indigo snake in the BA. The Service is developing a revised consultation Key for the eastern indigo snake. While the Key is being developed, based on guidance in a November 22, 2019, email from the State Supervisor (subject: Approved distances for consultations involving indigo snakes) the Service has identified an interim approach on when we would recommend consultation under the Act on eastern indigo snakes based on the expectation that an individual may be present.

In accordance with this guidance, the South Florida Ecological Services Field Office buffered known eastern indigo snake occurrence locations with a radius of 0.62 miles. It was determined that there is an indigo snake occurrence within the proposed S-356 Pump Station replacement project. The BA should provide an analysis of the construction impacts associated with the S-356 Pump Replacement project including the construction footprint, time of year, and duration that construction activities will occur. The BA should also include a description of where equipment and materials will be staged and how much material will be excavated from the area and how this material will be disposed. This information is needed to document the Corps’ conclusions and the rationale to support the conclusion regarding the effects of their proposed actions on the eastern indigo snake. The Corps commits to avoiding and minimizing adverse effects during construction activities as outlined in the *Draft Standard Protection Measures for the Eastern Indigo Snake* (Service 2013b). The commitment to this conservation measure may reduce any potential adverse affects to the eastern indigo snake.

### **Pine Rockland Species Comments**

The BA has a “*May affect, but is not likely to adversely affect*” determination for the following species and their critical habitats: Bartram’s Hairstreak Butterfly, Florida Leafwing Butterfly and their Critical Habitats; Blodgett’s Silverbush, Deltoid Spurge, Everglades Bully, Florida Pineland Crabgrass, Florida Prairie Clover, Garber’s Spurge, Pineland Sandmat, Small’s Milkpea, and Tiny Polygala. The Service believes that a “*No effect*” determination may be appropriate for these species and critical habitats because they are not present in the action area of CEPP South, which includes the construction footprint of the features and the area that will be affected by the associated active vegetation management. These species are within the action area of the COP which is currently being evaluated under a separate consultation. All operations of CEPP South features will be in accordance with the COP that is expected to begin implementation in August 2020. Therefore, no additional effects are anticipated for these species as a result of CEPP South.

Thank you for your cooperation and effort in protecting federally listed species. If you have any questions regarding this correspondence, please contact James Gruhala at 772-469-4250.

Sincerely,

Donald Progulske  
Everglades Program Supervisor  
South Florida Ecological Services Office

cc: electronic only  
Corps, Jacksonville (Angela Dunn, Andrew LoSchiavo, Melissa Nasuti)

#### LITERATURE CITED

U.S. Army Corps of Engineers (Corps). 2019. Combined Operational Plan Biological Assessment. Jacksonville District, Jacksonville, Florida, USA.

U.S. Army Corps of Engineers. 2020. Endangered Species Act Biological Assessment for the Central Everglades Planning Project. Jacksonville District. Jacksonville, Florida. January 2020.

U.S. Fish and Wildlife Service (Service). 1990. Habitat management guidelines for the wood stork in the southeast region. Prepared by John C. Ogden for the Southeast Region U.S. Fish and Wildlife Service; Atlanta, Georgia.

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U.S. Fish and Wildlife Service. 2013a. Preliminary Biological Opinion and Select Concurrence for the Central Everglades Planning Project on Effects to Threatened or Endangered Species and Critical Habitat. Vero Beach, Florida. December 17, 2013.

U.S. Fish and Wildlife Service. 2013b. Standard Protection Measures for the Eastern Indigo Snake. [https://www.fws.gov/northflorida/IndigoSnakes/20130812\\_EIS%20Standard%20Protection%20Measures\\_final.pdf](https://www.fws.gov/northflorida/IndigoSnakes/20130812_EIS%20Standard%20Protection%20Measures_final.pdf). August 12, 2013.

U.S. Fish and Wildlife Service. 2014. Amended biological opinion on the Tamiami Trail Modifications: Next Steps Project, Phase 1, Incorporating Modifications to the Authorized Plan. Vero Beach, Florida. July 8, 2014.



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO LORIDA OULEVARD  
JACKSONVILLE, FLORIDA 32207-8175

Planning and Policy Division  
Environmental Branch

8 May 2020

Mr. Larry Williams, Field Supervisor  
U.S. Fish and Wildlife Service  
1339 20th Street  
Vero Beach, FL 32960

Dear Mr. Williams:

The Jacksonville District, U.S. Army Corps of Engineers (Corps), provided a Biological Assessment (BA) for the Central Everglades Planning Project (CEPP) South components on January 23, 2020 to the U.S. Fish and Wildlife Service (USFWS) in accordance with provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended. The Corps is providing this correspondence to amend the 2020 CEPP South BA based on receipt of a request for additional information from the USFWS dated April 14, 2020. Detailed responses to the requested information are attached to this letter.

We request that the USFWS provide concurrence on the Corps revised species effect determinations, as outlined in the attached, upon receipt of this letter. The Corps is further requesting, that any concurrence letter provided in response to the revised "may affect not likely to adversely affect" determinations for the Cape Sable Seaside Sparrow (*Ammodramus maritimus mirabilis*) and its designated critical habitat, the Everglade snail kite (*Rostrhamus sociabilis plumbeus*) and its designated critical habitat, and the wood stork (*Mycteria americana*), clearly state that the construction of CEPP South features and interim operations of the CEPP South features in Contract 1 (S-631, S-632, and S-633), which will also be described in the 2020 CEPP South Draft Project Operating Manual, is not anticipated to exceed the take defined in the 2020 COP Biological Opinion (BO). Interim operations under CEPP South are consistent with COP operations. Therefore, any incidental take that occurs due to these operations has already been addressed in the COP consultation and that take is covered under the COP BO Incidental Take Statement. If under interim operations for CEPP South, incidental take for the COP is exceeded, re-initiation of consultation under the COP would be anticipated.

As previously communicated, the Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. Incidental take was not provided in the 2014 CEPP Programmatic BO for

the CSSS, Everglade snail kite, and wood stork. ESA consultation is required to be complete for CEPP South for purposes of execution of the PPA. The Corps is requesting that the concurrence letter prepared by the USFWS for the revised determinations, note that the letter also serves to update ESA consultation for CEPP South components previously evaluated in the 2014 CEPP Programmatic BO.

Please contact Melissa Nasuti by email: [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil) or telephone 904-232-1368 regarding this consultation request.

Sincerely,

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Angela E. Dunn  
Chief, Environmental Branch

Encl

cc:

Mr. Donald Progulske, U.S. Fish and Wildlife Service, 1339 20th Street,  
Vero Beach, Florida 32960

Mr. Miles Meyer, U.S. Fish and Wildlife Service, 1339 20th Street,  
Vero Beach, Florida 32960

## Attachment 1

### General Comments from April 14, 2020 Correspondence from USFWS

*USFWS Comment: In the Transmittal Letter dated January 23, 2020, the Corps stated that “Completion of a revised Draft Project Operating Manual (DPOM) for CEPP South and supporting National Environmental Policy Act documentation is anticipated to be complete by July 2020. If the DPOM shows CEPP South will have effects to listed species or critical habitat in a manner or an extent not considered in the BA, the Corps will reinstate ESA consultation as appropriate under 50 CFR §402.16.” Consequently, the BA provides an analysis of the hydrologic impacts that operations of the CEPP South features will have under the Combined Operational Plan (COP) (Corps 2020). The Preferred Plan (ALT Q+) from the 2019 COP BA was referenced within the BA to determine species effects determinations on Federally listed threatened and endangered species as a result of CEPP South implementation (Corps 2019). The Corps uses modeling results for ALT Q to describe these affects throughout the BA. The Service is currently evaluating the COP impacts to listed species under a separate consultation and requests the Corps’ affirmation that the CEPP South operations will be within the purview and operational constraints of COP. Therefore, any incidental take that occurs due to CEPP South operations will be covered under the COP BO Incidental Take Statement until such time that either 1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered under the COP and/or 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered under the COP.*

Response: The Corps reaffirms that the COP will define operations for water management infrastructure in the study area and will serve as the baseline for initial water management operations of features associated with the first construction contract, CEPP South Contract 1. Components in CEPP South Contract 1 include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) the L-67C interim 3,000 foot levee gap south of S-633; (3) L-67A spoil pile removal; and (4) backfill of a portion of the east-west agricultural ditch with degrade of the adjacent spoil piles between L-67A and L-67C.

CEPP South infrastructure (S-631, S-632, and S-633) will be operated subject to the constraints identified under the COP, and in the same manner as prescribed for the S-152 structure under the DPM Phase 2 Field Test, as part of interim operations that will be included in the 2020 CEPP DPOM. S-152 releases up to the design capacity of 750 cfs from WCA 3A to WCA 3B under the following restrictions:

- L-67A canal stage at S-333 HW must be above 7.5 feet NGVD.
- Closed when WCA 3B at Site 71 or SRS-1 stage equals or exceeds 8.5 feet, NGVD.
- The water quality constraint criteria per FDEP Permit Number 0304879 (or any subsequent modifications issued to USACE) must be met.
- S-152 may be closed when S-355A and S-355B are closed due to L-29 canal stage constraints.

S-631, S-632, S-633, and S-152 would collectively only be able to pass the equivalent volume currently allowed by the design capacity of S-152 which is 750 cfs. Reference Section 4.1 (Pg 18) of the 2020 CEPP South BA. The above mentioned permit and subsequent modifications were provided to USFWS on April 30, 2020 via email.

*USFWS Comment: The BA lists all the CEPP South features in Table 1 (page 8), Figure 2 (page 9), and provides a description of these on pages 11 through 14. The new S-356 pump station is not listed on Figure 2. Similarly, the S-355W gated spillway is not listed in Table 1. Please provide corrected versions of Figure 2 and table listing all CEPP South features.*

Response: Table 1 in the 2020 CEPP South BA references a “L-29 Gated Spillway”. The term “S-355W gated spillway” is another way to refer to the “L-29 Gated Spillway”. Table 1 has been updated below. Figure 2 in the 2020 CEPP South BA shows the location of S-356 noted as a “Yellow Line Feature”. This figure was pulled from the 2014 CEPP Final PIR/EIS, in which the authorized project features were graphically represented by: (1) North of the Redline (Storage and Treatment); (2) South of the Redline (Distribution and Conveyance); (3) Blue and Green Lines (Distribution and Conveyance) and; (4) Yellow Line (Seepage Management). S-356 is represented as feature number “1” in Figure 1 below. Please use this figure, in addition to that already included in the 2020 CEPP South BA for purposes of clarifying the location of S-356.

REVISED TABLE 1 FROM 2020 CEPP SOUTH BA. CEPP PROJECT FEATURES BY IMPLEMENTATION PHASE.

CEPP North	• L-6 Diversion
	• S-8 Pump Modifications
	• L-4 Levee Degrade and Pump Station
	• L-5 Canal Improvements
	• Miami Canal Backfill
CEPP South	• L-67 A Structure North
	• One L-67 C Gap (6,000 ft.)
	• Increase S-356 to 1,000 cfs
	• Increase S-333*
	• L-29 Gated Spillway (S-355W Gated Spillway)
	• L-67 A Structures 2 and 3 South
	• L-67 A Spoil Mound Removal
	• Remove L-67 C Levee Segment
	• Remove L-67 Extension Levee
	• 8.5 Mile Blue Shanty Levee
	• Remove L-29 Levee Segment
	• Backfill L-67 Canal Extension
	• Remove Old Tamiami Trail**
	• Seepage Barrier L-31 N

CEPP New Water	• A-2 Reservoir
	• Miami Canal and North New River Canal Improvements

\* Action currently being pursued by the South Florida Water Management District (SFWMD)

\*\* Action currently being pursued by the National Park Service (NPS)

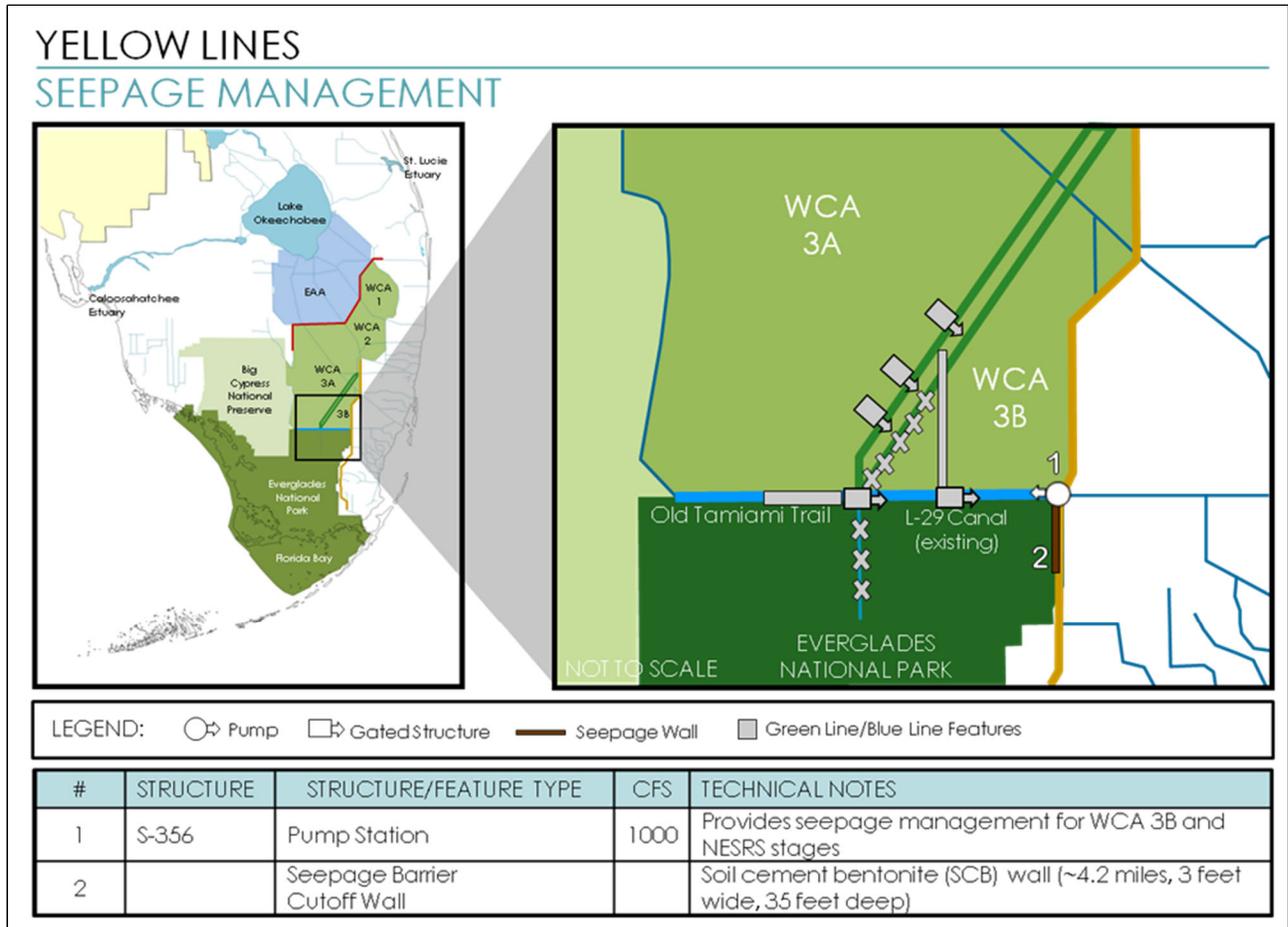


FIGURE 1. CEPP RECOMMENDED PLAN SEEPAGE MANAGEMENT FEATURES AND LOCATIONS. NOTE LOCATION OF S-356.

*USFWS Comment: The BA states that the increased capacity of S-333 and the removal of Old Tamiami Trail are currently being pursued and constructed by the South Florida Water Management District (SFWMD) and the Everglades National Park (ENP), respectively. The S-333N construction began on September 2018 and has since been completed. The removal of the Old Tamiami Trail construction began January 2020 with final construction completion by January 2022. It is unclear why these projects are being*

*included as part of this consultation request since these projects have already began construction and been consulted upon under the CEPP Preliminary Biological Opinion (Service 2013a) and the Tamiami Trail Modifications: Next Steps Project (Service 2014; Service Consultation Code 41420-2010-F-0370) by the Corps and ENP, respectively. Therefore, these projects should be removed from the Project Description.*

Response: Information on the status of S-333N and removal of Old Tamiami Trail, were included in the project description to provide an update to the USFWS on the status of these components. These features are part of the environmental baseline for this consultation and their respective feature effects to listed species were evaluated under the BOs referenced by the Service in the RAI. S-333N is not included in Table 4 of the 2020 CEPP South BA. As noted in the provided correspondence, the construction of this structure is being pursued by the SFWMD. Updated ESA consultation (from the 2014 Programmatic BO) with respect to the structure was completed by the Corps' Regulatory Division prior to issuance of the associated permit to the SFWMD. Reference Department of Army Permit SAJ-2018-00736 and FDEP CERPA Permit 0362076-001. Reference to Old Tamiami Trail Road Degrade was included in Table 4 of the 2020 CEPP South BA, as it originally appeared in the 2014 CEPP BA; however the Corps proposes to remove reference to this feature in the table because the feature has already been subject to ESA consultation and construction is pending completion. Updated ESA consultation for this structure occurred through coordination with ENP for the Tamiami Trail Modifications: Next Steps Project (Service 2014; Service Consultation Code 41420-2010-F-0370).

*USFWS Comment: The BA provides a Table with the acres lost and the Habitat Impacts for CEPP South features and implementation of Adaptive Management and Monitoring Plan (AMMP) components but it does not include the acres or project footprints for the following components: S-333N, S-631, S-632, S-633, S-355W, and S-356. Table 4 on page 46 should be updated accordingly and the project footprint/dimensions for each component should be adequately described in pages 11 through 14.*

Response: Table 4 of the 2020 CEPP South BA has been updated, based on the current available information for S-631, S-632, S-633, L-67A spoil pile removal, S-356, S-355W, backfill of the east-west agricultural ditch, and installation of the temporary pumps adjacent to the L-29 canal.

S-631, S-632, and S-633 will largely be constructed within the footprint of the existing levee. Based on the current limits of construction, construction of S-631, S-632, and S-633 is expected to result in wetland impacts of 2.0, 2.5, and 3.0 acres, respectively.

The 2014 CEPP Final PIR/EIS identified that spoil piles along the northwestern side of the of the L-67A canal in the proximity of the L-67A gated culverts would be removed to facilitate sheetflow connectivity with the WCA 3A marsh. The location and number of spoil piles to be removed were not previously identified in the 2014 CEPP Final PIR/EIS. The Corps has since identified the location and number based on coordination with the SFWMD, FDEP, and FWC. Based on the current limits of construction, spoil pile removal at S-631 and S-632 is expected to result in temporary wetland impacts of 6.8 and 7.6

acres, respectively. Vegetation within the footprint of construction would be expected to re-vegetate.

Estimated acreages of wetland impacts in Table 4 have also been revised to account for the backfill of the east-west agricultural ditch and the installation of the L-29 canal temporary pumps, as these features were not explicitly described in the 2014 Final PIR/EIS. Approximately 81 acres of wetlands would be temporarily impacted under backfill of the approximate 4.0 mile east-west agricultural ditch located between L-67C canal and the Blue Shanty levee. CEPP South Contract 1 proposes to backfill only a portion of the east-west agricultural ditch (1.36 miles) which would result in temporary wetland impacts of 28 acres. Vegetation within the footprint of construction would be expected to re-vegetate.

Installation of the L-29 temporary pumps would result in temporary wetland impacts of 0.065 acres from the construction of collection sumps that would need to be installed immediately adjacent and north of the L-29 levee. When the pumps are removed in advance of the L-29 levee segment removal under CEPP South Contract 5, the sump excavations would be returned to the pre-installation condition. It is anticipated that only two temporary pumps would be installed adjacent to the L-29 canal; however in coordination with the SFWMD, FDEP, and FWC, three potential locations were identified, as listed in Table 4.

S-356 and S-355W are in the preliminary design phase. Contract award for S-356 is expected in September of 2022 with the duration of the construction estimated to be four years beyond contract award per the south Florida IDS. Contract award for S-355W is expected in June 2023 with the duration of construction estimated to be two years beyond contract award per the south Florida IDS. Finalized footprints, including where equipment and materials will be staged for S-356 and S-355W are currently under development. Quantities of how much material will be excavated for each structure, as well as how the material will be disposed of is also under development. Estimated wetland acreages associated with the construction and installation of S-355W and S-356 have been added to Table 4 below at the request of the USFWS. These acreages represent best available information that is subject to change due to further detailed design during the PED phase.

Figure 2 shows preliminary design efforts for S-356. The blue polygon represents the pump station footprint. The northern brown polygon represents a parking area, the location of a fuel tank farm, pump station access ramp, and loading dock area. The purple polygon represents the spillway footprint. The southern brown polygon will be infill and will also provide a loading dock area. All areas between the green lines are expected to be open water. The pink line represents the re-aligned levee. The area between the pink line and the existing L-29 canal (~ 6 acres) is expected to be the maximum extent of potential wetland impacts. The approximate acreage between the green lines that is expected to become open water is 3.7 acres, of which 3.2 acres are existing levee. The approximate acreage of open water that is expected to be filled is 0.6 acres. The structure to the left of the polygons is S-334.

Figures 3 and 4 show preliminary design efforts for S-355W including the location and potential staging. The structure is anticipated to be aligned with the L-67D levee. A conceptual bypass canal and cofferdam to facilitate construction is shown in Figure 4, however the design and/or need for these features is not yet determined. The Corps is also currently investigating the option to install temporary pumps to bypass water around the immediate construction footprint of S-355W during construction. The approximate acreage of wetlands to be temporarily disturbed with construction of a cofferdam is 1.44 acres. The approximate acreage of existing levee that will temporarily convert to open water as a result of the bypass canal is 1.09 acres. The approximate acreage of water expected to convert to the structure to include staging during construction is 1.05 acres.

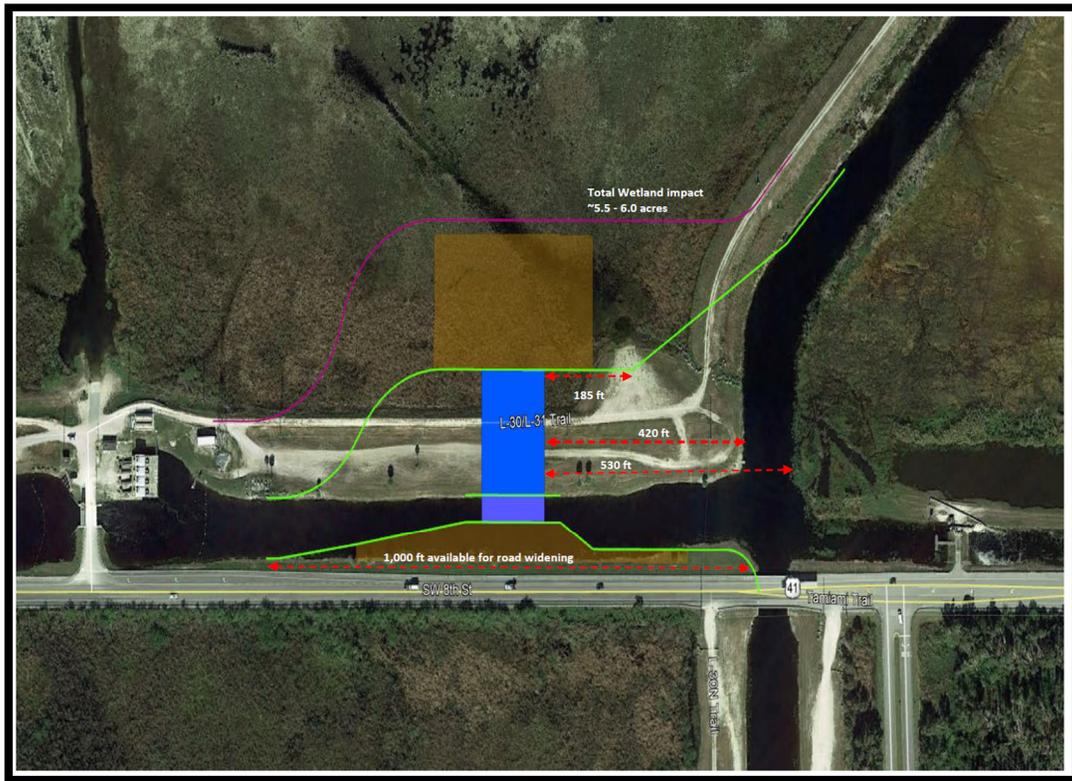


FIGURE 2. PRELIMINARY DESIGN AND LOCATION OF PROPOSED S-356.



FIGURE 3. PRELIMINARY DESIGN AND LOCATION OF PROPOSED S-355W SPILLWAY.

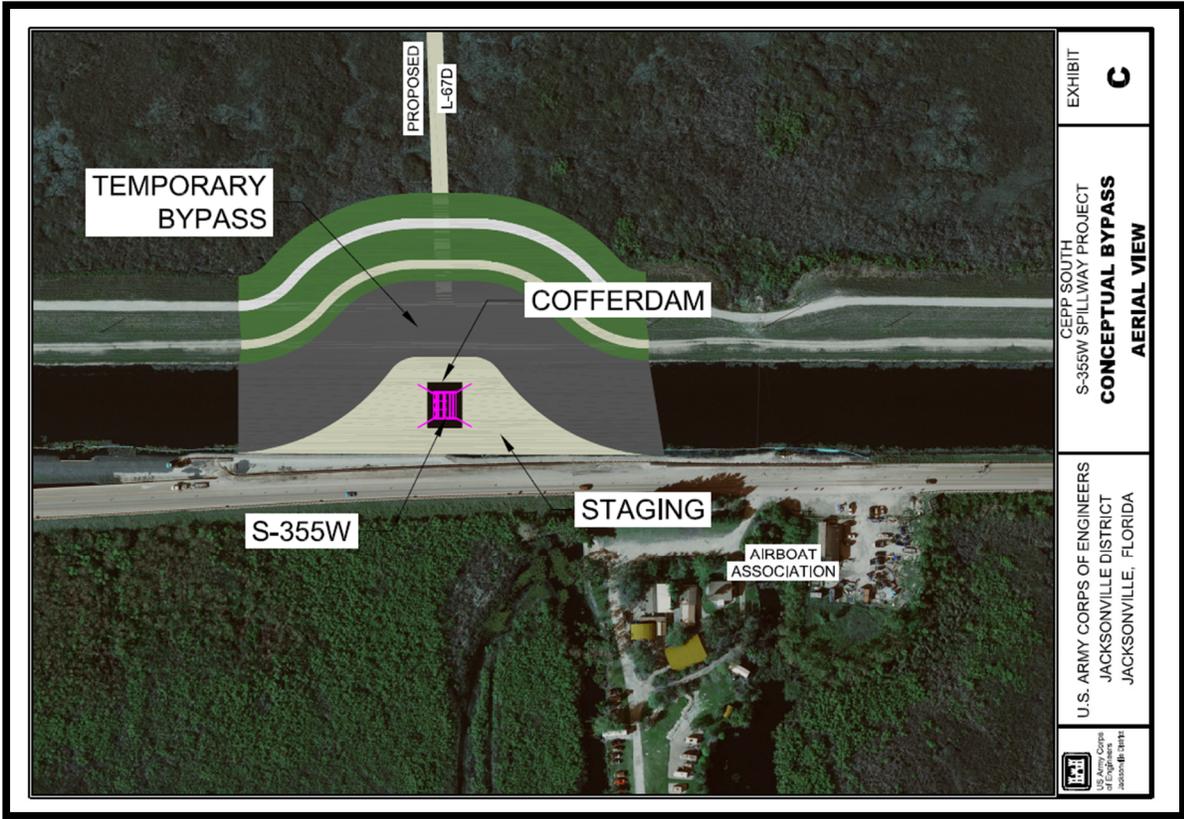


FIGURE 4. PRELIMINARY DESIGN AND LOCATION OF PROPOSED S-355W SPILLWAY TO INCLUDE POTENTIAL BYPASS CANAL AND STAGING LOCATION.

REVISED TABLE 4 FROM 2020 CEPP SOUTH BA. PANTHER HABITAT IMPACTS FOR CEPP SOUTH FEATURES BASED ON PANTHER HABITAT UNIT VALUES\* INCLUDING IMPLEMENTATION OF AMMP COMPONENTS

Project Feature	Zone of Impacted Lands	Acres Lost	Panther Habitat Unit Value	Total HUs	Acres Created	Panther Habitat Unit Value	Total HUs
L-67C Gap Degrade (barren/disturbed to marsh)	Primary	9	3	27	9	4.7	42
L-67C Flowway Degrade <sup>1</sup> (barren/disturbed to marsh)	Primary	64	3	192	64	4.7	301

<b>Project Feature</b>	<b>Zone of Impacted Lands</b>	<b>Acres Lost</b>	<b>Panther Habitat Unit Value</b>	<b>Total HUs</b>	<b>Acres Created</b>	<b>Panther Habitat Unit Value</b>	<b>Total HUs</b>
L-29 Degrade (barren/disturbed to marsh)	Primary	46	3	138	46	4.7	216
Blue Shanty Levee Creation (marsh to barren/disturbed)	Primary	113	4.7	531	113	3	339
L-67 Extension Levee Degrade (barren/disturbed to marsh)	Primary	41	3	123	41	4.7	193
L-67 Extension Backfill (water to marsh)	Primary	104	0	0	104	4.7	489
East-West Agricultural Ditch Backfill 4 Miles (water to marsh) <sup>2</sup>	Primary	81	0	0	81	4.7	381
S-631 <sup>3</sup> (marsh to barren disturbed)	Primary	2	4.7	9	2	3	6
S-631 Spoil Piles (barren/disturbed to marsh)	Primary	6.8	3	20	6.8	4.7	32
S-632 <sup>3</sup> (marsh to barren disturbed)	Primary	2.5	4.7	12	2.5	3	8
S-632 Spoil Piles (barren/disturbed to marsh)	Primary	7.6	3	23	7.6	4.7	36
S-632-AMI-P2 Temporary Pump (marsh to barren disturbed)	Primary	0.023	4.7	0	0.023	3	0
S-633 <sup>3</sup> (marsh to barren disturbed)	Primary	3	4.7	14	3	3	9
S-633-AMI-P2 Temporary Pump (marsh to barren disturbed)	Primary	0.023	4.7	0	0.023	3	0

Project Feature	Zone of Impacted Lands	Acres Lost	Panther Habitat Unit Value	Total HUs	Acres Created	Panther Habitat Unit Value	Total HUs
S-152-AMI-P2 Temporary Pump (marsh to barren disturbed)	Primary	0.023	4.7	0	0.023	3	0
S-356 (marsh to barren disturbed)	Primary	6	3	18	6	4.7	28
S-356 (barren disturbed to open water)	Primary	0.5	3	2	0.5	0	0
S-356 (open water to barren disturbed)	Primary	0.6	0	0	0.6	3	2
S-355W (marsh to barren disturbed)	Primary	1.44	4.7	7	1.44	3	4
S-355W (barren disturbed to open water)	Primary	1.09	3	3	1.09	0	0
S-355W (open water to barren disturbed)	Primary	1.05	0	0	1.05	3	3
Total	-	-	-	1,119	-	-	2,088

<sup>1</sup> Estimated wetland acreage from CEPP South Contract 1 (L-67C 3,000 foot interim gap) = 2.4 acres.

<sup>2</sup> Estimated wetland acreage from CEPP South Contract 1 (East-West Agricultural Ditch Backfill 1.36 miles) = 28 acres

<sup>3</sup> Estimated wetland acreage from the 2014 CEPP Final PIR/EIS for the L-67A Gated Culverts = 13.5 acres

*USFWS Comment: The BA lists the operational constraints for CEPP South as defined by the COP on pages 17 and 18. The L-29 constraint of 8.5 ft for no longer than 90 days may be lifted after the Tamiami Trail Next Steps Final Phase is completed in 2023. Does the Corps plan on maintaining the L-29 constraint until a new operations plan is developed? Or, does the Corps plan on modifying operations and reinitiating consultation under CEPP South once construction is completed?*

Response: The COP includes the capability to further extend and/or remove the cumulative duration criteria for operating the L-29 canal above 8.3 feet, NGVD

(referenced as the FDOT roadway constraint), while continuing to adhere to the maximum operating stage limit of 8.5 feet, NGVD. Implementation of this change would not occur without: (1) written approval from FDOT to remove the L-29 canal constraint identified in Appendix A (Water Control Plan) of the COP EIS, based on a joint evaluation of monitoring data by the USACE and the FDOT (this data evaluation is ongoing with the MWD Increment 2 Field Test); (2) demonstration of the capability of the completed MWD project components to maintain flood mitigation requirements for the 8.5 SMA under the raised L-29 canal maximum operating limit of up to 8.5 feet, NGVD; and (3) consideration of increased low-water stages within WCA 3A, including along the western L-29 canal between S-12A and S-333. The requirement for all three pre-conditions to be met may preclude these operations during the initial implementation period of the COP, since additional inflows of treated water to WCA 3A from the upstream Lake Okeechobee and EAA basins and/or additional flood mitigation requirements may be necessary.

Independent of the COP, as Phase 2 of the Tamiami Trail Next Steps Project, the DOI is partnering with the State of Florida to re-construct the non-bridged roadway sections and to install additional bridges along the remaining portions of the Tamiami Trail roadway between S-333 and S-334 (L-29 canal reach) to accommodate the design high water stage of 9.7 feet, NGVD that is planned for full implementation of the CERP. Design efforts are ongoing concurrent with the COP, and construction completion is currently anticipated by late 2024. Completion of the roadway modifications would allow for written approval from the FDOT to remove the L-29 canal constraint identified in Appendix A (Water Control Plan), independent of the joint evaluation of monitoring data for the existing roadway by the USACE and the FDOT under the MWD Increment 2 Field Test. Since the potential raising of the L-29 canal maximum operating stage limit will not be completed prior to implementation of the COP Water Control Plan in 2020, consistent with the up-front plan formulation assumptions, the higher L-29 stage limit was not considered, modeled, or evaluated during development of the COP; regional operational changes to utilize an L-29 canal maximum operating limit above 8.5 feet, NGVD will be further evaluated during CERP implementation, given that CERP also provides additional inflows to the WCA 3A and ESA consultation will be reinitiated with the Service at that point.

*USFWS Comment: According to the BA, the proposed action includes active vegetation management within a 1,003-acre area of the Blue Shanty Flowway to enhance flow by reconnecting historic sloughs. The BA states that the active vegetation management would be accomplished through the use of herbicides (glyphosate). The Service requests responses to questions 1-7 below, as this additional information is necessary so the potential effects from the active vegetation management on listed species can be thoroughly evaluated:*

- 1.) *How will the glyphosate be applied (i.e.; hand-sprayers, aerial applicators, airboats, etc.);*
- 2.) *What time of year will the glyphosate applications occur, and will there be multiple treatments;*
- 3.) *If there are multiple treatments, how many, and what timeframe will they occur;*
- 4.) *Will the glyphosate be formulated with additives such as surfactants or dyes;*

- 5.) *If there will be formulation to the glyphosate, provide a list of the additives;*
- 6.) *Will dead vegetation, resulting from the vegetation management, decompose in the water;*
- 7.) *If dead vegetation will be left to decompose, what effect will it have to water quality (i.e.; will it reduce dissolved oxygen)?*

Response: To address questions regarding the use of active vegetation management, the Corps coordinated with the SFWMD whom applied previous applications of glyphosate in support of the DPM in WCA 3B. The glyphosate will likely be applied via airboats. The applications will likely occur in the growing season (August to January). Multiple treatments are not anticipated. One treatment is expected to open the sloughs. If there are missed spots, treatment will happen approximately 6-12 months after the first spray concludes. The glyphosate may be formulated with additives (Flumioxazin, Anchor (surfactant), and Accuracy (surfactant)). Dead vegetation will decompose in the water, however water total phosphorous collected in treated areas under DPM Phase 2 continues to be less than or equal to 10 ppb. Dissolved oxygen curves are not negatively affected (i.e. neither lower in magnitude or lower in minimum O<sub>2</sub> values) from non-treated areas. Enhanced flow generally increases dissolved oxygen values compare to baseline, non-flowing conditions – this effect is observed in both treated and non-treated (i.e. remnant sloughs).

*USFWS Comment: The Corps' transmittal letter requested formal consultation for the Cape Sable seaside sparrow and made a determination of "May Affect" but did not specify whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected." When the Federal action agency determines that a "May affect, and Likely to Adversely Affect" situation exists, the action agency is required to request formal consultation with the Service for those species.*

Response: The referenced language in the 2020 CEPP South BA was consistent with prior BAs submitted to USFWS for CERP and other projects related to C&SF operations. See response below regarding revised determination to a "may affect not likely to adversely affect" based upon further coordination with the USFWS.

*USFWS Comment: The Corps' BA states on page 64 that, "The western marl prairies, where CSSS-A resides may experience a backwater effect due to increased flows in NESRS; however, this potential effect may be ameliorated by removal of the L-67 Extension Levee under CEPP South." There is no further analysis or explanation of how this may occur. The Service is concerned that operation of COP through the CEPP South infrastructure plan (e.g., removal of the L-67 extension levee) will change the flow volumes and patterns below the 2.6-mile bridge. Does modeling address this issue? The BA states in one location that the L-67 extension will not be backfilled (page 8, Table 1) and in another it states that it will (page 12, 6th bullet). Which is the case?*

Response: Table 1 in the 2020 CEPP South BA included the following text: "Remove L-67 Extension Levee (No Backfill)" and "Backfill L-67 Canal Extension". The text referencing "No Backfill" refer to the L-67 Extension Levee removal being completed as

part of a separate construction contract (concurrent with L-67D construction) from the later CEPP contract that will backfill the complete remainder of the L-67 Extension Canal (concurrent with the L-29 Levee degrade). The text on page 12 of the 2020 CEPP South BA is correct. The 2014 CEPP Final PIR/EIS recommended that the entire remaining length of the L-67 Extension Levee (5.5 miles) be removed and the adjacent borrow canal backfilled. Removal of the L-67 Extension Levee and backfill of the adjacent borrow canal has been identified as Contract 6 with an award in FY2025. However, the SFWMD is currently proceeding with backfilling up to 0.5 miles of the L-67 Extension Canal (~10% of the remaining 5.5 mile length) with material from the removal of Old Tamiami Trail Road. The Corps will include this in the CERPRA permit application for CEPP South Contract 1. See inset in Figure 5 below for the location of the backfilling being proposed by the SFWMD. Figure 5 also represents the most up to date map for CEPP South Contract 1 features.

Modeling conducted for the 2014 CEPP Final PIR/EIS assumed removal and backfill of the L-67 extension. Modeling conducted for COP, did not include the same assumption. As stated in the 2020 CEPP BA, under COP, flows through S-343A/B, S-344, and S-12A, S-12B, S-12C, and S-12D were significantly reduced by 131,200 acre feet per year on average under ALTQ relative to ECB19RR. Decreased flow (67,000 acre feet) was also observed across Transect T17 for ALTQ which is located west of the L-67 Extension in ENP. The observed decrease was coupled with an observed increase in flow across Transect T18 into NESRS (229,000 acre feet). However, increases in flows were observed across Transect T20 (127,000 acre feet) which represents the historic southwesterly flow into north central ENP along the Shark River Slough. Removal of the L-67 Extension Levee and backfill may affect the western marl prairies and CSSS-Ax.

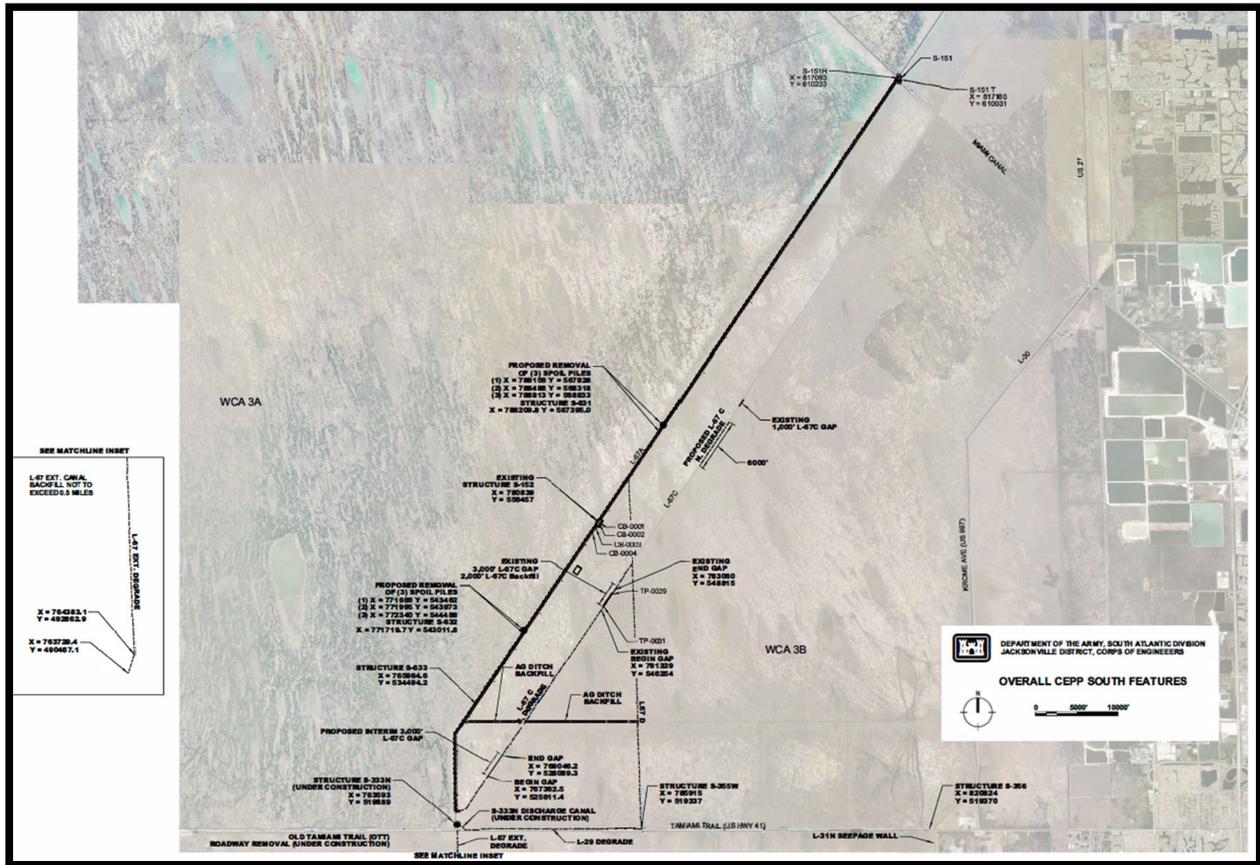


FIGURE 5. OVERALL CEPP SOUTH FEATURES

*USFWS Comment: The Corps concludes the sparrow section in part with, “CEPP South may potentially raise groundwater levels in sensitive areas for the sparrow, therefore, hydrological changes associated with implementation of the action are expected to alter some of the physical and biological features essential to the nesting success and overall conservation of the subspecies. The implementation of the Proposed Action is expected to influence wetland hydroperiods causing changes in nesting and marl prairie suitability for the CSSS.” It is not clear whether these hydrologic changes are a result of the construction of the CEPP South features or a result of the COP operations that will be in place. If these hydrologic changes are a result of the COP, then they should be addressed in the current COP Biological Opinion. If they are a result of the CEPP South features, then additional information will be required to determine their effect on the CSSS.*

*Our preliminary review of the Corps’ proposed action, construction of the CEPP South features, indicates that a determination of “May affect, is not likely to adversely affect” may be appropriate for the sparrow based on its distance (approximately 9 miles) from the proposed footprint of the project. The Corps has assured the Service that any interim operations under CEPP would be strictly controlled to match those under COP and*

*therefore any incidental take of CSSS would be pursuant to the ITS in the Service's 2020 COP Biological Opinion.*

Response: As stated previously, the COP will define operations for water management infrastructure in the study area and will serve as the baseline for initial water management operations for the CEPP South Contract 1 features. CEPP South infrastructure (S-631, S-632, and S-633) will be operated subject to the constraints identified under the COP, and in the same manner as prescribed for the S-152 structure under the DPM Phase 2 Field Test. Upon further review, the Corps has revised its determination to a "may affect, not likely to adversely affect" for the CSSS and its designated critical habitat as a result of construction of CEPP South components identified in Table 1 (above) and implementation of interim operations of CEPP South Contract 1, which will be described in the 2020 CEPP South DPOM, as the potential changes in hydrology in the action area will largely be driven by implementation of the COP.

However, the Corps is requesting, that any concurrence letter provided in response to the MANLAA determination clearly state that the construction of CEPP South features (identified in Table 1) and interim operations of the CEPP South features in Contract 1 (S-631, S-632, and S-633), which will also be described in the 2020 CEPP South DPOM, is not anticipated to exceed the take defined in the 2020 COP BO. Interim operations under CEPP South are consistent with COP operations. Therefore, any incidental take that occurs due to these operations has already been addressed in the COP consultation and that take is covered under the COP BO Incidental Take Statement. If under interim operations for CEPP South, incidental take for the COP is exceeded, re-initiation of consultation under the COP would be anticipated. As previously communicated, the Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. Incidental take was not provided in the 2014 CEPP Programmatic BO for the CSSS. ESA consultation is required to be complete for CEPP South for purposes of execution of the PPA. The Corps is requesting that the concurrence letter prepared by the USFWS for the revised determination, note that the letter also serves to update ESA consultation for CEPP South components previously evaluated in the 2014 CEPP Programmatic BO.

The Corps is currently recommending revisions to the 2014 CEPP DPOM to define interim operations of CEPP South features. Interim operations defined in the 2020 CEPP DPOM are anticipated to be in place until approximately 2027. A permanent update to the 2020 Water Control Plan (COP) will be pursued in the future pending consideration of: (1) new information from completion of the Lake Okeechobee System Operating Manual (LOSOM) EIS and Water Control Plan anticipated in October 2022, which may provide a moderate increase in inflows to WCA 3A; (2) new information gained from implementation of the 2020 Water Control Plan (COP) and supporting COP AMMP; (3) construction of features associated with the Department of Interiors (DOI's) TTNS Bridging and Road Raising Features anticipated for completion in late 2024; and (4) construction and implementation of CERP, including CEPP North and the EAA Reservoir A-2 Stormwater Treatment Area (STA), components identified in the Integrated Delivery Schedule (IDS) for the South Florida Ecosystem Restoration Program. If any effects to

listed species associated with future revisions to the 2020 CEPP DPOM, the Corps will reinstate ESA consultation, as appropriate under 50 CFR § 402.16.

*USFWS Comment: The Corps' transmittal letter requested formal consultation for the Everglade snail kite and made a determination of "May Affect" but did not specify whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected." When the Federal action agency determines that a "May affect, and Likely to Adversely Affect" situation exists, the action agency is required to request formal consultation with the Service for those species.*

Response: The referenced language in the BA is consistent with prior BAs submitted to USFWS for CERP and other projects related to C&SF operations. See response below regarding revised determination to a "may affect not likely to adversely affect" based upon further coordination with the USFWS.

*USFWS Comment: The BA does not identify conservation measures for the Everglade snail kite that will be implemented as part of the action to minimize potential adverse effects to the species. The Service requests for the Corps to consider incorporating the Service's Standard Snail Kite Management Guidelines. These guidelines recommend maintaining a 150-meter no-entry zone and a 500-meter limited activity zone around all active snail kite nests within the action area. The commitment to this conservation measure may support a "May affect, is not likely to adversely affect" determination for the Everglade snail kite.*

Response: The Corps concurs with incorporation of the Service's Standard Snail Kite Management Guidelines during construction of CEPP South components. Upon further review, the Corps has revised its determination to "may affect, not likely to adversely affect" for the Everglade snail kite and its designated critical habitat as a result of construction of CEPP South components identified in Table 1 (above) and implementation of interim operations of CEPP South Contract 1 features, which will be described in the 2020 CEPP South DPOM, as the potential changes in hydrology in the action area will largely be driven by implementation of the COP.

However, the Corps is requesting that any concurrence letter provided in response to the MANLAA determination, clearly state that the construction of CEPP South features (identified in Table 1) and interim operations of CEPP South features in Contract 1, which will also be described in the 2020 CEPP South DPOM, is not anticipated to exceed the take defined in the 2020 COP BO. Interim operations under CEPP South are consistent with COP operations. Therefore, any incidental take that occurs due to these operations has already been addressed in the COP consultation and that take is covered under the COP BO Incidental Take Statement. The Corps is requesting that the concurrence letter prepared by the USFWS for the revised determination, note that the letter also serves to update ESA consultation for CEPP South components previously evaluated in the 2014 CEPP Programmatic BO.

*USFWS Comment: The Corps' transmittal letter requested formal consultation for the wood stork and made a determination of "May Affect" but did not specify whether the species is "not likely to be adversely affected" or "likely to be adversely affected." When the Federal action agency determines that a "May affect, and Likely to Adversely Affect" situation exists, the action agency is required to request formal consultation with the Service for those species.*

Response: The referenced language in the BA is consistent with prior BAs submitted to USFWS for CERP and other projects related to C&SF operations. See response below regarding revised determination to a "may affect not likely to adversely affect" based upon further coordination with the USFWS.

*USFWS Comment: The Service requires an analysis of foraging prey base losses and enhancements for projects with greater than 2.02 hectares (5 acres) of wetland impacts (Service 2010). The BA does not include a foraging analysis to evaluate the impacts from the construction of the CEPP South components and the active vegetation management activity. The Service requested this information by email on March 3, 2020 and March 17, 2020, respectively. The Corps provided the hydroperiod class information needed for this analysis by email on April 2, 2020. The Service will evaluate the project effects to foraging prey base and foraging habitat based on this information.*

Response: The Corps concurs with the use of a wood stork foraging analysis to evaluate the impacts from the construction of the CEPP South components and the active vegetation management activity. The Corps updated the hydroperiod tables submitted on April 2, 2020 on May 7, 2020 with the revised project feature information and sent via separate correspondence.

*USFWS Comment: The Corps stated that it will implement construction conservation measures as outlined in the Service's Habitat Management Guidelines for the Wood Stork in the Southeast Region (Service 1990). These guidelines recommend maintaining a 229-meter (750 ft) protection zone around feeding sites when storks are present, 457-meter (1,500 ft) primary zone and a 762-meter (2,500 ft) secondary zone around all active wood stork nests within the action area. The commitment to this conservation measure may support a "May affect, is not likely to adversely affect" determination for the wood stork.*

Response: Upon further review, the Corps has revised its determination to "may affect, not likely to adversely affect" for the wood stork as a result of construction of CEPP South components identified in Table 1 (above) and implementation of interim operations of CEPP South Contract 1 features, which will be described in the 2020 CEPP South DPOM, as the potential changes in hydrology in the action area will largely be driven by implementation of the COP.

However, the Corps is requesting that any concurrence letter provided in response to the MANLAA determination clearly state that the construction of CEPP South features (identified in Table 1) and interim operations of the CEPP South features in Contract 1,

which will also be described in the 2020 CEPP South DPOM, is not anticipated to exceed the take defined in the 2020 COP BO. Interim operations under CEPP South are consistent with COP operations. Therefore, any incidental take that occurs due to these operations has already been addressed in the COP consultation and that take is covered under the COP BO Incidental Take Statement. The Corps is requesting that the concurrence letter prepared by the USFWS for the revised determination, note that the letter also serves to update ESA consultation for CEPP South components previously evaluated in the 2014 CEPP Programmatic BO.

*USFWS Comment: The Corps made a determination of “May affect, but is not likely to adversely affect” the eastern indigo snake in the BA. The Service is developing a revised consultation Key for the eastern indigo snake. While the Key is being developed, based on guidance in a November 22, 2019, email from the State Supervisor (subject: Approved distances for consultations involving indigo snakes) the Service has identified an interim approach on when we would recommend consultation under the Act on eastern indigo snakes based on the expectation that an individual may be present.*

*In accordance with this guidance, the South Florida Ecological Services Field Office buffered known eastern indigo snake occurrence locations with a radius of 0.62 miles. It was determined that there is an indigo snake occurrence within the proposed S-356 pump station replacement project. The BA should provide an analysis of the construction impacts associated with the S-356 Pump Replacement project including the construction footprint, time of year, and duration that construction activities will occur. The BA should also include a description of where equipment and materials will be staged and how much material will be excavated from the area and how this material will be disposed. This information is needed to document the Corps’ conclusions and the rationale to support the conclusion regarding the effects of their proposed actions on the eastern indigo snake. The Corps commits to avoiding and minimizing adverse effects during construction activities as outlined in the Draft Standard Protection Measures for the Eastern Indigo Snake (Service 2013b). The commitment to this conservation measure may reduce any potential adverse effects to the eastern indigo snake.*

Response: As noted above, contract award for S-356 is expected in September of 2022 with the duration of the construction estimated to be four years beyond contract award per the south Florida IDS. Finalized footprints, including where equipment and materials will be staged for S-356 is currently under development. Quantities of how much material will be excavated for each structure, as well as how the material will be disposed of is also under development. See the above response with respect to preliminary design details currently available for S-356.

*USFWS Comment: The BA has a “May affect, but is not likely to adversely affect” determination for the following species and their critical habitats: Bartram’s Hairstreak Butterfly, Florida Leafwing Butterfly and their Critical Habitats; Blodgett’s Silverbush, Deltoid Spurge, Everglades Bully, Florida Pineland Crabgrass, Florida Prairie Clover, Garber’s Spurge, Pineland Sandmat, Small’s Milkpea, and Tiny Polygala. The Service believes that a “No effect” determination may be appropriate for these species and critical*

habitats because they are not present in the action area of CEPP South, which includes the construction footprint of the features and the area that will be affected by the associated active vegetation management. These species are within the action area of the COP which is currently being evaluated under a separate consultation. All operations of CEPP South features will be in accordance with the COP that is expected to begin implementation in August 2020. Therefore, no additional effects are anticipated for these species as a result of CEPP South.

Response: The CEPP South BA submitted on January 23, 2020, contained a “No Effect” determination for the Deltoid Spurge, Small’s Milkpea, and Tiny Polygala. Reference Section 6.3.1.1 (Pg 44) and Table 3 (Pg 28-30) in the 2020 CEPP South BA. The Corps acknowledges that the CEPP South BA transmittal letter contained an error in that the effects determinations for several species did not match those in the 2020 CEPP South BA. Regardless, of that error, the Corps agrees with a “No Effect” determination for the referenced listed species noted in correspondence from USFWS dated April 14, 2020. The Corps is amending the 2020 CEPP South BA through this correspondence to reflect that concurrence. Please see the revised table below, which reflects these changes. The table below also shows the revised determinations for the CSSS, Everglade snail kite, and wood stork.

REVISED TABLE 3 FROM 2020 CEPP SOUTH BA. STATUS OF FEDERALLY THREATENED AND ENDANGERED SPECIES UNDER USFFWS’ JURISDICTION WITH THE POTENTIAL TO OCCUR WITHIN THE CEPP SOUTH ACTION AREA AND THE CORPS’ EFFECTS DETERMINATION (E: ENDANGERED; T: THREATENED; SA: SIMILARITY OF APPEARANCE; CH: CRITICAL HABITAT, C: CANDIDATE SPECIES)

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
<b>Mammals</b>					
Florida panther	<i>Puma concolor coryi</i>	E	X		
Florida manatee	<i>Trichechus manatus latirostris</i>	E, CH	X		
Florida bonneted bat	<i>Eumops floridanus</i>	E	X		
<b>Birds</b>					
Cape Sable seaside sparrow	<i>Ammodramus maritimus mirabilis</i>	E, CH	X		
Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	E, CH	X		

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
Piping plover	<i>Charadrius melodus</i>	T			X
Red-cockaded woodpecker	<i>Picoides borealis</i>	E			X
Roseate tern	<i>Sterna dougallii</i>	T			X
Wood stork	<i>Mycteria americana</i>	T	X		
<b>Reptiles</b>					
American Alligator	<i>Alligator mississippiensis</i>	T, SA	X		
American crocodile	<i>Crocodyl usacutus</i>	T, CH	X		
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	X		
Gopher tortoise	<i>Gopherus polyphemus</i>	C			X
<b>Invertebrates</b>					
Bartram's hairstreak butterfly	<i>Strymon acis bartrami</i>	E, CH			X
Florida leafwing butterfly	<i>Anaea troglodyta floralis</i>	E, CH			X
Miami blue butterfly	<i>Cyclargus thomasi bethunebakeri</i>	E			X
Schaus swallowtail butterfly	<i>Heraclides aristodemus ponceanus</i>	E			X
Stock Island tree snail	<i>Orthalicus reses (not incl. nesodryas)</i>	T			X
<b>Plants</b>					
Crenulate lead plant	<i>Amorpha crenulata</i>	E			X
Deltoid spurge	<i>Chamaesyce deltoidea spp.</i>	E			X

Common Name	Scientific Name	Status	May Affect Not Likely to Adversely Affect	May Affect	No Effect
	<i>deltoidea</i>				
Garber's spurge	<i>Chamaesyce garberi</i>	T			X
Okeechobee gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeenis</i>	E			X
Small's milkpea	<i>Galactia smallii</i>	E			X
Tiny polygala	<i>Polygala smallii</i>	E			X
Big pine partridge pea	<i>Chamaecrista lineata</i> var. <i>keyensis</i>	E			X
Blodgett's silverbush	<i>Argythamnia blodgettii</i>	T			X
Cape Sable thoroughwort	<i>Chromolaena frustrata</i>	E, CH			X
Carter's small-flowered flax	<i>Linum carteri</i> var. <i>carteri</i>	E, CH			X
Everglades bully	<i>Sideroxylon reclinatum</i> spp. <i>austrofloridense</i>	T			X
Florida brickell-bush	<i>Brickellia mosieri</i>	E, CH			X
Florida bristle fern	<i>Trichomanes punctatum</i> spp. <i>floridanum</i>	E			X
Florida pineland crabgrass	<i>Digitaria pauciflora</i>	T			X
Florida prairie clover	<i>Dalea carthagenesis floridana</i>	E			X
Florida semaphore cactus	<i>Consolea corallicola</i>	E, CH			X
Pineland sandmat	<i>Chaemaesyce deltoidea pinetorium</i>	T			X

<b>Common Name</b>	<b>Scientific Name</b>	<b>Status</b>	<b>May Affect Not Likely to Adversely Affect</b>	<b>May Affect</b>	<b>No Effect</b>
Sand flax	<i>Linum arenicola</i>	E			X



## United States Department of the Interior

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



June 5, 2020

Andrew D. Kelly, Colonel  
District Commander  
U.S. Army Corps of Engineers  
Post Office Box 4970  
Jacksonville, Florida 32232

Service Consultation Code: 04EF2000-2020-I-0623  
Date Received: January 23, 2020  
Project: Central Everglades Planning Project South  
Components  
County: Miami-Dade

Dear Colonel Kelley:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Army Corps of Engineers' (Corps) request to reinstate consultation dated January 23, 2020, and other information submitted by the Corps for the proposed Central Everglades Planning Project (CEPP) South Components (Project). The Project would involve the construction of the components listed in Table 1 and the treatment of vegetation in 1,003 acres of historic sloughs in the Blue Shanty flow way with herbicides. The Corps has determined that the proposed Project may affect, but is not likely to adversely affect the endangered Florida bonneted bat (*Eumops floridanus*; FBB), the endangered Florida panther (*Puma concolor coryi*), the threatened West Indian manatee (*Trichechus manatus latirostris*) and its critical habitat, the endangered Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*; CSSS) and its critical habitat, the proposed threatened Eastern black rail (*Laterallus jamaicensis jamaicensis*), the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*; snail kite) and its critical habitat, the threatened wood stork (*Mycteria americana*), and the threatened Eastern indigo snake (*Drymarchon corais couperi*). This letter is submitted 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.*).

This Letter of Concurrence tiers to two other consultation documents: the CEPP Programmatic Biological Opinion (BO) (2014) and the Combined Operational Plan (COP) BO (2020). CEPP south is a component of the overall CEPP project which includes CEPP South, CEPP North and CEPP-New Water. Additional ESA consultations have been completed for CEPP-New Water (BO 2020) that includes the Everglades Agricultural Area Storage Reservoir. The COP is the water operations plan that overlays this Project footprint. The COP BO exempted incidental take for CSSSs, snail kites, and wood stork due to water operations. Since this consultation only evaluates the construction of the conveyance features/structures, COP will be utilized to direct the water operations of the constructed components until another operational plan is completed.

## PROJECT DESCRIPTION

The specific Plan to be implemented in CEPP South include the construction of conveyance features that function to deliver and re-distribute existing water from Water Conservation Area (WCA) 3A to WCA 3B, Everglades National Park (ENP) and Florida Bay (Corps 2014). Construction of the following CEPP components in CEPP South were identified to prepare the system for the future additional inflows from Lake Okeechobee and the Everglades Agricultural Area basin by providing the necessary additional outlet capacity from WCA 3A (Figure 1). The construction of some components of this Project are expected to be initiated around August/September of 2020 (contract 1). It is expected that all the construction work analyzed in this Letter of Concurrence will be complete by 2027.

Components included within the Proposed Action are described below:

S-631 - The structure would be a gated culvert with a design capacity of 500 cubic feet per second (cfs). S-631 would be located in L-67A to deliver water from WCA 3A to WCA 3B, east of the L-67D Levee (Blue Shanty Levee).

S-632 - The structure would be a gated culvert with a design capacity of 500 cfs. S-632 would be located in L-67A to deliver water from WCA 3A to WCA 3B, within the WCA 3B Blue Shanty flow way.

S-633 - The structure would be a gated culvert with a design capacity of 500 cfs. S-633 would be located in L-67A to deliver water from WCA 3A to WCA 3B, within the WCA 3B Blue Shanty flow way.

L-67D (Blue Shanty Levee) - The L-67D Levee would connect L-67A to L-29 and serve as the eastern perimeter levee for the WCA 3B Blue Shanty flow way. It would run due north from the L-29 Levee, starting approximately 4.3 miles east of S-333. The total length would be approximately 8.5 miles. The crest width would be 14 feet, the height would be 6 feet, and the side slopes would be 3:1.

L-67C Levee (Separates WCA 3A from WCA 3B, parallel to the L-67A Levee) - Approximately 8 miles of the L-67C Levee, west of the proposed L-67D Levee, would be removed from the area north of Tamiami Trail within the WCA 3B flow way. The adjacent canal would not be backfilled. North of the new L-67D Levee, an approximately 6,000-foot gap would be created to distribute discharges from S-631 to eastern WCA 3B. The levee removal and gapping would allow a more natural flow of water from WCA 3A to WCA 3B, and the WCA 3B Blue Shanty flow way would provide a direct hydrologic connection to ENP.

L-67 Extension Levee (Located in ENP, south of S-333) - The entire remaining length of the L-67 Extension Levee (5.5 miles) would be removed and the adjacent borrow canal would be backfilled (5.5 miles). This would allow a more natural flow of water and provide a direct hydrologic connection between Northeast Shark River Slough (NESRS) and Western Shark River Slough.

S-355W - The S-355W structure would be a gated spillway located in line with the L-29 Canal at the southern extent of the proposed L-67D levee, with a design capacity of 1,230 cfs. The purpose of the S-355W would be to convey water from the L-29 Canal within the Blue Shanty flow way, eastward towards the existing S-334 spillway to aid in meeting ENP ecological objectives.

L-29 Levee (southern boundary of WCA 3B, east of S-333) - Approximately 4.3 miles of the L-29 Levee, west of the new L-67D Levee, would be removed. This would allow water to move through the WCA 3B flow way.

S-356 - The new S-356 Pump Station would replace the current temporary pump station and have a design capacity of 1,000 cfs to provide seepage return to ENP. It would be located in the vicinity of the existing temporary pump station. The new pump station should be able to handle the current discharges from S-335 and the seepage into L-31N (from S-335 to G-211) without requiring discharges to tide.

East-West Agricultural Ditch Backfill and Spoil Mound Removal - Approximately 1.56 miles (8,240 feet) of the east-west agricultural ditch is expected to be backfilled under Contract 1 to improve southerly flow conveyance to the L-29 Canal and to move water through the Tamiami Trail bridges.

Active Vegetation Management - The 2014 CEPP Project Implementation Report/Environmental Impact Statement (PIR/EIS) and Adaptive Management and Monitoring Plan (AMMP) recommended management options to pursue active vegetation management in the Blue Shanty flow way to enhance flow by reconnecting historic sloughs. Sawgrass has encroached on the historic sloughs in WCA 3B due to changes in hydrology. Active vegetation management would be accomplished through the use of herbicides (glyphosate) on 406 hectares (1,003 acres). The glyphosate would be formulated with flumioxazin, another herbicide, and surfactants to increase the anchoring ability and accuracy of the application. The formulation will be applied by airboat for a targeted treatment by the South Florida Water Management District.

L-29 Canal Temporary Pumps – Due to the phased construction schedule currently anticipated for the CEPP South components that will occur prior to the L-29 levee removal, temporary pumps will be installed adjacent to the L-29 Canal to facilitate the achievement of adaptive management objectives. The proposed temporary pumps would be utilized as an interim measure to improve the southerly flow conveyance to the L-29 Canal, complementing the active vegetation management within the Blue Shanty flow way.

### **Construction Activities**

Cofferdams will be installed during construction of the structures and turbidity curtains will be installed in the canals to reduce turbidity. Thirteen miles of temporary access roads will be constructed along the L-67 A, C, and Extension levees to access project sites and haul excess spoil and/or levee degrade material (Figure 2). Wetland areas outside of the construction footprint will remain undisturbed. Cofferdams will be removed once the in-water structures (i.e. culverts, pump stations, spillways) are completed. Water quality will be protected during

construction of the project features using appropriate best management practices (BMPs) put in place by the construction contractor(s). Turbidity monitoring and reporting is a requirement for Corps projects with in-water work and will occur during construction of the structures and during backfilling. The contractor(s) will submit an Environmental Protection Plan describing BMPs to protect water resources during construction. Contractors will only operate within established construction limits.

While there would be minor impacts due to construction of the three new structures on the L-67A levee, degrading of portions of the L-67C levee, and backfilling of the East-West Agricultural Ditch, these project components will help reconnect WCA 3A to WCA 3B and increase overall wetland acreage. Implementation of this step is also a critical interim phase to restoring the continuous sheetflow path in the WCA 3B flow way. Wetland function is also expected to increase from restoration of sheetflow across WCA 3A and WCA 3B into ENP. Initial construction of project features may have a temporary adverse effect on the wetland function in the construction areas, but once the project is complete and the remaining CEPP project features are constructed there would be an increase in wetland function based on acres of wetlands gained (Table 1).

## **Operations**

The overall CEPP project considered in the 2014 CEPP Programmatic BO, was designed and modeled based on the addition of 210,000-acre feet of new water made available by Flow Equalization Basins (FEBs) and reservoirs in the system and ultimately conveyed into the WCAs and ENP. However, for the purposes of this CEPP South planning phase, the impacts in this ESA consultation will only be evaluated based on the construction of the currently proposed features. As previously indicated, the features/structures will be operated with existing water under the COP. The Corps will conduct additional modeling in the future to assess effects on natural resources as a result of additional CEPP features and the integration with the current operating plan.

Adding additional conveyance features at the WCA 3A/WCA 3B boundary, removing parts of the L-67C levee, and backfilling the East-West Agricultural Ditch will improve hydrologic connectivity between WCA 3A, WCA 3B, and ENP. Improved sheetflow will rehydrate and restore natural drainage patterns and hydrology that were altered when the canals and levees were constructed. Improved sheetflow slows the velocity of the water, while the additional conveyance locations will enable operational flexibility for both distribution of those flows over a broader flow-path for the benefit of WCA 3B or reliance on S-633 to focus southerly flows towards the L-29 temporary pumps. Total inflows to WCA 3B would be consistent with previously permitted historical flows from the Decomp Physical Model (DPM), with no significant change to operational utilization or flow volumes of the S-355A and S-355B. Concurrent with discharged inflows from these structures into WCA 3B, the L-29 temporary pumps will be operated consistent with the S-333/S-333N flow targets prescribed under the COP Tamiami Trail Flow Formula, to ensure delivery of flows to ENP consistent with the COP. Interim operations of the S-631, S-632, and S-633 will not divert or temporarily store flows from the S-333, since combined flows from the L-29 pumps and S-333/S-333N will adhere to the COP Tamiami Trail Flow Formula. Interim operations were not modeled, however, Figure 10 from

the 2014 CEPP Final PIR/EIS shows the surface water flow vector map representing the anticipated magnitude and directionality of project flow paths for the completed CEPP (Corps 2014).

The hydrologic effects of CEPP include the combined effects from the implementation of all project features. CEPP South operations will be within the purview and operational constraints of COP. The hydrologic effects of COP have been previously evaluated and modeled (Corps 2019; Service 2020). Negligible effects on peak stages are expected in WCA 3B. No significant changes to surface water stages within WCA 3A, WCA 3B, or ENP are anticipated with the interim operations (Corps 2020).

Water flowing through the S-631, S-632, S-633, and S-152 structures will be constrained by total phosphorus concentrations (TP), total combined flow, L-67A canal stage, and downstream WCA 3B stage constraints. Structures would be closed when projected TP is expected to be greater than 10 ppb and the four combined structures will not exceed a combined flow of 750 cfs per design limitations of the S-152 feature, and limiting the WCA 3B maximum downstream stage level to 8.5 feet NGVD (Site 71/SRS-1). Concurrent with discharged inflows from these structures into WCA 3B, the L-29 temporary pumps will be operated consistent with the S-333/S-333N flow targets prescribed under the COP Tamiami Trail Flow Formula and constrained by the maximum canal stage in the L-29 canal of 8.5 ft NGVD. To minimize the potential for over draining WCA 3A, the four structures (i.e., S-631, S-632, S-633, and S-152) will be operated within the same constraints as S-152 is currently operated until additional CEPP features are constructed, or other upstream operational changes are implemented, that will supply additional inflows to WCA 3A. With the existing water budget and consideration of ecosystem restoration targets, the COP formulation and hydrologic modeling balanced the conveyance from WCA 3A to ENP (computed through the Tamiami Trail Flow Formula) to achieve restoration objectives and adhere to project constraints. The COP Draft Environmental Impact Statement (EIS) and the COP BO evaluated potential adverse effects that may occur as a result of the COP Recommended Plan (Corp 2019; Service 2020).

A change to the 2012 Water Control Plan to incorporate permanent operations for CEPP South is not being pursued at this time. A Draft EIS and Water Control Plan for the COP was published in the Federal Register (Volume 82, Number 21) on January 31, 2020. Implementation of COP will result in a change to the 2012 Water Control Plan for the WCAs, ENP, and ENP to South Dade Conveyance System (SDCS). The Record of Decision (ROD) and implementation of COP is expected in August of 2020. As such, the COP will define operations for water management infrastructure in the project area and serve as the baseline for initial water management operations in the CEPP South project area. The operations associated with COP have been reviewed and the Service provided a BO on May 5, 2020.

### **Action Area**

For consultation purposes, the action area for the Project is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR §402.02). The Service considers the action area for the proposed Project as all lands and components listed in Table 1 that are within the 490.65 acre CEPP South Components

project footprint, the 1,003-acre area that will be subjected to the Project-associated active vegetation management activity, and the listed species habitat (i.e. core foraging areas, home ranges) affected by the Project (Figures 1, 3, and 4).

### **Conservation Measures**

The Corps will ensure that the following conservation measures are incorporated into the proposed action to avoid and minimize the action's potential to adversely affect federally listed species and designated critical habitat.

The Corps has committed to adhering to the Service's:

(1) *Standard Manatee Conditions for In-Water Work* (Service 2009).

(2) *Standard Snail Kite Management Guidelines* (Service 2006). These guidelines recommend maintaining a 150-meter no-entry zone and a 500-meter limited activity zone around all active snail kite nests within the action area.

(3) *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (Service 1990). These guidelines recommend maintaining a 229-meter (750 ft) protection zone around feeding sites when storks are present, 457-meter (1,500 ft) primary zone and a 762-meter (2,500 ft) secondary zone around all active wood stork nests within the action area.

(4) *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013). These guidelines will be in place throughout the duration of the Project; and implement a speed limit of no more than 25 miles per hour for all vehicular traffic at project sites.

The Corps acknowledges the occurrence of the previously discussed threatened and endangered species and/or critical habitat within the CEPP South action area. In recognition of this, disturbance to listed species will be minimized or avoided by utilizing the provisions of the COP BO and the adaptive management process defined therein (Service 2020). Species and habitat monitoring will continue to identify population trends for the CSSS, snail kite, wood stork and the vegetation characteristic of their habitats currently being conducted in compliance with the ERTF 2016 BO (Service 2016) and COP BO (Service 2020). Periodic Scientist Calls (PSC) will allow the Corps and its Tribal and governmental partners to discuss ecological, hydrological, and meteorological conditions to achieve the objective of managing water levels and releases for the protection of multiple species and their habitats. Regularly scheduled interagency calls in January, May, and October allow the Corps to gather input on desired long-term (annual and/or seasonal) conditions within WCA 3 and ENP.

The operational strategy eventually developed for the CEPP South PPA features will adhere to the COP. The seasonal closures for the S-12A, S-12B, S-343A and S-343B are incorporated into the COP. Additionally, the COP includes removal of the seasonal closures at S-344 and includes limited adjustments to the S-332D seasonal pump restrictions. Lifting of S-344 closure dates and extending S-332D full pumping by an additional month, from November 30 to December 31, were based on coordination with the Service during development of the COP. The Site 71 gauge (USGS ID: 255250080335001) in WCA 3B must be below 8.5 feet NGVD for operation of

S-152, in addition to other water quality constraints identified in the proposed COP Water Control Plan. For the interim operation condition following execution of Contract 1 for CEPP South, the CEPP structures (S-631, S-632, and/or S-633) would be operated consistent with the DPM (S-152) to maintain indicated hydroperiod effects. Operations of these structures would be discontinued when the stage at Site 71 exceeds 8.5 feet, NGVD. Additional modeling to support development of a Draft Project Operating Manual (DPOM) is anticipated to be completed during the Project Preconstruction, Engineering, and Design (PED) phase. If any effects to listed species associated with the development of the DPOM are revealed that were not previously considered in the COP BO (Service 2020), the Corps will reinitiate ESA consultation, as appropriate.

The specific features of the CEPP Recommended Plan to be implemented in CEPP South will include the construction of conveyance features that function to deliver and re-distribute existing water from WCA 3A to WCA 3B, ENP and Florida Bay. The Corps would implement construction conservation measures as outlined above to avoid and minimize adverse effects on those species during construction activities. The FBB may also occur in the action area. Pre-construction surveys for FBB will be conducted prior to clearing and construction in order to identify any potential roost sites. Monitoring for listed species that could occur in or around the project area during construction would be specified in the contract specifications.

### **SPECIES NOT LIKELY TO BE ADVERSELY AFFECTED BY THE PROPOSED ACTION**

In the 2014 CEPP Programmatic BO the Service concurred with the Corps' determination that the CEPP project "may affect, but is not likely to adversely affect" the following species: the endangered Florida panther (*Puma concolor coryi*), the endangered West Indian manatee (*Trichechus manatus latirostris*) and its designated critical habitat, the threatened American crocodile (*Crocodylus acutus*) and its designated critical habitat, the endangered Deltoid spurge (*Chamaesyce deltoidea* spp. *deltoidea*), threatened Garber's spurge (*Chamaesyce garberi*), endangered Small's milkpea (*Galactia smallii*), and endangered Tiny polygala (*Polygala smallii*). The species effect determinations made by the Corps in its 2013 Biological Assessment (BA), except for the FBB and eastern indigo snake, are not changing, therefore, the Service reiterates its concurrence and refers the reader to its 2014 CEPP Programmatic BO for more detail (Service 2014). We updated the Project's Florida panther habitat assessment and the West Indian manatee effects to reflect the new information in the Corps' 2020 BA.

### **THREATENED AND ENDANGERED SPECIES**

#### **Florida bonneted bat**

The proposed Project lies within the consultation area of the FBB and occurrences have been documented within the action area in the Service's database. The proposed Project will modify the inundation and hydroperiod of both upland and wetland areas. However, these modifications will likely result in beneficial impacts to the FBB by increasing the extent of available foraging habitat. In consultation with the Service, the Corps agreed to conduct a general FBB survey to first identify trees/snags and other roost structures for evidence of cavities, hollows, and crevices

that can be used for permanent shelter or refugia around the project site. If any such features are discovered, they will be inspected for any potential roosting activity prior to their removal. Therefore, the Service concurs with the Corps' determination that the Project "may affect, but is not likely to adversely affect" the FBB.

## **Florida Panther**

Florida panthers are known to inhabit the proposed action area of the CEPP South Project. Parts of the proposed action area overlap the Florida panther "Primary Zone" and "Secondary Zone". The "Primary Zone" was established as part of a landscape-level strategy for the conservation of the panther population in south Florida and was developed using a Florida panther potential habitat model. The model is based on the following criteria: (1) forest patches greater than 2 hectares (4.95 acres); (2) non-urban cover types within 200 meters (656 feet) of forest patches; and (3) exclusion of lands within 300 meters (984 feet) of urban areas. The Primary Zone is currently occupied and supports the breeding population of panthers. Secondary Zone lands are contiguous with the Primary Zone and although these lands are used to a lesser extent by panthers, they are important to the long-term viability and persistence of the panther in the wild. Panthers use these lands in a much lower density than in the Primary Zone.

Previous early consultations in 2014 and 2018, on the impact of the CEPP to panthers, resulted in concurrence with the Corps' determination of may affect, not likely to adversely affect. In the Programmatic BO (Service 2014) which covered the whole CEPP Project and contained little detail about specific CEPP South components, the Service concluded that for the purposes of CEPP, the primary effect to the Florida panther is through habitat loss from the construction of the A-2 FEB. Effects to the Florida panther from the A-1 FEB were addressed in our April 14, 2006, BO for the A-1 Reservoir. The Service issued a BO on the construction of the EAA Reservoir (CEPP New Water) in 2020. The Service and Corps again consulted informally on the effects of CEPP South on the Florida panther in 2018. The Corps included in its 2018 BA a table of acreages that would be affected by construction components in CEPP South and the habitat value to panthers of those acres. The Service again concurred with the Corps' determination that the proposed project "may affect, but is not likely to adversely affect" the Florida panther. In the Corps' 2020 BA, the table of acreages and associated habitat value for panthers has been updated (Table 2).

While the results of this analysis are not equivalent to the analysis the Service outlines in its Panther Habitat Unit Evaluation Methodology, it does indicate the general trend of effects to panther habitat of the construction of CEPP South components. The overall net effect of construction of the project is that it will directly enhance panther habitat by roughly 661.9 habitat units (Table 2). This is mainly through removal of poor quality habitat such as levees, borrow canals, and spoil mounds and replacing them with slightly higher value marsh habitat. The largest negative effect will be the construction of Blue Shanty Levee in WCA 3B. This will result in the conversion of 45.73 hectares (113 acres) with a habitat value of 4.7 (marsh) to 45.73 hectares (113 acres) with a levee with a habitat value of 3 (barren/disturbed) which results in a net loss of 192 habitat units (531.1 HU before – 339 HU after).

Based on the updated analysis provided by the Corps, and a review of panther telemetry data (Figure 5), the Service concludes that there will be no take of the Florida panther resulting from this project. No panther telemetry locations are in the project footprint, but the species is reasonably certain to occur in the area. The loss of habitat from implementing the project, taking into consideration the status of the species, remaining habitat, and other factors considered in prior BOs, such as the overall recovery objectives and other cumulative effects from actions in the action area, will be offset by the conservation/restoration of other, more functionally valuable habitat. The CEPP South project will have some limited interim operations associated with it, however, any impacts from these operations on panthers was assessed during the consultation on the COP. By letter dated March 16, 2020, the Service concurred with the Corps' determination that the COP "may affect, but is not likely to adversely affect" the panther. Given the information above, the Service reaffirms its concurrence of the Corps' determination that construction and interim operation of the CEPP South project "may affect, but is not likely to adversely affect" the Florida panther.

### **West Indian Manatee and West Indian Manatee Critical Habitat**

Based on our records, Florida manatees have not been observed within the CEPP South action area in 40 years. According to the BA, CEPP South includes the removal of the remaining 8.8 km (5.5 mile) length of the L-67 Extension Levee, and the backfilling of the adjacent borrow canal, which would be approximately 8.8 km (5.5 miles). Under CEPP South, three gated culverts (S-631, S-632, and S-633) would be located in the L-67A levee adjacent to the L-67A Canal and a gated spillway (S-355) would be constructed in the L-29 Canal at the southern extent of the proposed L-67D levee to convey water from the L-29 Canal within the Blue Shanty flow way, eastward towards the existing S-344 spillway. Manatees currently have access to the L-67A Canal and the L-29 Canal. Under CEPP South, approximately 6.4 km (4.0 miles) of the east-west agricultural ditch would be backfilled in the Blue Shanty flow way to improve southerly flow conveyance to the L-29 Canal. Approximately 2.5 km (1.56 miles) are expected to be backfilled under Contract 1 of CEPP South. This shallow agricultural ditch is not hydrologically connected to the L-67A Canal and is inaccessible to manatees. The Corps commits to avoiding and minimizing potential adverse effects to manatees during construction activities by implementing construction conservation measures as outlined in the Service's *Standard Manatee Conditions for In-Water Work* (Service 2009).

Based on this information and considering the Corps' commitment to adhere to the Service's *Standard Manatee Conditions for In-Water Work*, the Service believes the Project's effects to the West Indian manatee would be insignificant and discountable. Therefore, the Service concurs with the Corps' effects determination that CEPP South "may affect, but is not likely to adversely affect" the West Indian manatee.

The CEPP South action area does not overlap critical habitat for the West Indian manatee. Therefore, the Project would have no effect on West Indian manatee critical habitat.

## **Cape Sable Seaside Sparrow and Cape Sable Seaside Sparrow Critical Habitat**

The endangered CSSS does not occur in the project area. The closest known nesting sparrow habitat lies generally nine miles southwest of the project area. Construction activities associated with the proposed components of the CEPP South project would have no direct effect on this species. As stated previously in this document, the Corps is planning to implement limited water operations for the newly constructed features of CEPP South consistent with the COP.

Consequently, any effects resulting from these operations have been fully evaluated under the COP (Service 2020). Therefore, any incidental take that occurs due to these limited operations has already been addressed through consultation under the COP BO and is covered by its Incidental Take Statement. Increased future water flow through the proposed Blue Shanty flow way under the full CEPP project is anticipated to affect CSSSs downstream, operation of the this flow way will be governed by the next iteration of Water Control Plan as indicated by the overall Central Everglades Planning Project (Corps 2013) and will need further consultation with the Service before its implementation. The Service concurs with the Corps' conclusion that the CEPP South project "may affect, but is not likely to adversely affect" the CSSS. The CEPP South project area does not overlap CSSS critical habitat, therefore, the Project would have no effect on CSSS critical habitat.

## **Eastern Black Rail**

The action area of CEPP South is within the known range of the eastern black rail. The eastern black rail is currently a proposed species. A proposed species is a species that is proposed in the to be listed under Section 4 of the ESA. In accordance with Section 7(a)(4) of the ESA, the Corps has requested a conference concurrence for the potential effects of the CEPP South project to the eastern black rail. The conference concurrence can be adapted as a concurrence letter if the eastern black rail is listed as threatened or endangered under the ESA.

Eastern black rails are found in a variety of salt, brackish, and freshwater marsh habitats that can be tidally or non-tidally influenced. Within these areas, the birds occupy relatively high elevations along heavily vegetated wetland gradients, with soils that are moist or flooded to a shallow depth (1 to 6 centimeters (cm)). Eastern black rails forage on seeds and various small (<1 cm) aquatic and terrestrial invertebrates, especially insects. Occupied habitat tends to be primarily composed of fine-stemmed emergent plants (rushes, grasses, and sedges) with high stem and dense canopy cover. The eastern black rail requires dense vegetative cover that allows movement underneath the canopy, providing shelter and protection for nest sites. Flooding is a frequent cause of nest failure. For nests to be successful, water levels must be below the nests during egg laying and incubation, which occurs from May to August.

According to the Corps' amendment to the BA dated March 17, 2020, CEPP South is expected to increase flows to ENP. The expected differences in water depths and hydroperiods resulting from CEPP South in comparison to the existing baseline condition are unlikely to significantly affect areas of higher elevations that coincide with suitable eastern black rail habitat as previously described. Therefore, the Service concurs with the Corps' effects determination that CEPP South "may affect, but is not likely to adversely affect" the eastern black rail.

## Everglade snail kite and Everglade Snail Kite Critical Habitat

Snail kites have been documented to nest and forage within the action area and in the vicinity of the project area. The CEPP South action area also overlaps a portion of designated snail kite critical habitat.

Snail kites generally nest over water, most commonly in small trees such as willow, melaleuca, or pond cypress and occasionally in herbaceous vegetation like sawgrass, cattail, giant bulrush, and reed. Preferred nesting sites are typically more than 150 meters from upland areas to avoid pressures from upland predators. The Project area contains non-forested freshwater sawgrass and willow shrub/cattail wetlands that are seasonally inundated for more than 300 days. There are no suitable tree species present that may be suitable for snail kite nesting. Additionally, Project features are located directly adjacent to levees and do not provide a sufficient buffer from potential predators. Therefore, it is not expected that the project area and action area support nesting habitat for the snail kite. However, if snail kites are discovered in the vicinity of the action area, the Corps has committed to adhering to the Service's *Standard Snail Kite Management Guidelines*. These guidelines recommend maintaining a 150-meter no-entry zone and a 500-meter limited activity zone around all active snail kite nests within the action area. The Service believes this conservation measure will minimize the potential for noise and activity during project construction activities to significantly affect snail kite nesting and foraging behavior.

Snail kite foraging habitat consists of relatively shallow wetland vegetation, either within extensive marsh systems, or in lake littoral zones. Snail kites have a highly specific diet composed almost entirely of apple snails. There are surface waters or saturation within much of the project area with appropriate hydroperiod to support long term establishment of apple snails. The Project will directly affect an estimated 51.77 hectares (127.94 acres) of long hydroperiod wetland. These effects will be permanent. The Project is expected to restore 145.44 hectares (359.4 acres) of marsh resulting from the removal of levees, spoil mounds, and backfill of ditches and canals. This is anticipated to result in an overall improvement to snail kite foraging habitat with the foraging value matching the hydroperiod of the wetlands affected and providing snail kite foraging value similar to, or higher than, that of the affected wetlands (Table 1).

The project associated vegetation management includes the application of the herbicide, glyphosate. The glyphosate would be formulated with flumioxazin, another herbicide, and surfactants to increase the anchoring ability and accuracy of the application. The formulation will be applied by airboat for a targeted treatment. This formulation and method has been approved by the South Florida Water Management District. Data for glyphosate and this formulation indicates that it has low-potential for bio-accumulation and should benefit apple snail populations by reducing thick vegetation in treated areas (Xu et al. 2017). The vegetation management would allow for the connection of historic sloughs within the 406 hectares (1,003 acres) portion of the WCA 3B and would therefore extend the hydroperiod and improve foraging conditions for the snail kite. Based on this information, the Service believes that any potential indirect effects to snail kite foraging (apple snails) and potential indirect effects to snail kites through bio-accumulation would be discountable and insignificant.

Based on this information and the commitment to implementation of the conservation measures, the Service concurs with the Corps' determination that the Project "may affect, but is not likely to adversely affect" the Snail kite, and Snail kite critical habitat.

### **Wood stork**

The Project is located within the wood stork core foraging area (CFA) of the L-28 Gap, L-28 Crossover South, WCA 13, Jetport, Jetport South, Big Cypress Mitchell Landing, Grossman Ridge West, Kinich, Tamiami Trail West, Tamiami Trail East 1, Tamiami Trail East 2, and 3B Mud East colonies (Figure 3). The CFAs encompass 824,494 hectares (2,037,370 acres) in WCA 3, ENP, and Big Cypress National Preserve (Figure 3). The nearest recorded wood stork nests are approximately 0.75 km (0.5 mile) west of the S-356 project site (i.e. Tamiami Trail East 1 colony) and 6 km (3.7 miles) east of the proposed Blue Shanty flow way (i.e. Tamiami West colony). Service guidelines recommend that suitable foraging habitat within a wood stork CFA (i.e. 30 km (18.6 mile) buffer surrounding the nest) should be protected from habitat disturbances, such as anthropogenic water level changes and vegetative alterations during the breeding season (January to May) to protect the foraging area of the nesting wood storks. The Project area is within the recommended protective zone. The Service also requires an analysis of foraging prey base losses and enhancements for projects with greater than 2.02 hectares (5 acres) of wetland impacts (Service 2010).

The Project components encompass 198.53 hectares (490.58 acres) of which approximately 51.77 hectares (127.94 acres) will have permanent impacts to wetlands as a direct result of the construction of the gated culverts, spillways, pump stations, and the Blue Shanty Levee (L-67D) (Table 1). Additionally, the Project may temporarily impact 0.03 hectare (0.069 acres) during construction of the sumps for the L-29 canal temporary pumps (i.e. S-632-AMI-P2; S-633-AMI-P2; and S-152-AMI-P2). The proposed Project will also remove existing levees and spoil mounds, backfill ditches and canals, restore sloughs through active vegetation management, and improve foraging conditions within long hydroperiod freshwater marsh wetland habitat (i.e. wetlands inundated for more than 180 days per year) (Table 1). The average hydroperiod in the WCA 3B is greater than 330 days based on the Eden10 gage (<https://sofia.usgs.gov/eden/>).

The Project will directly enhance 66.77 hectares (214.4 acres) of wetland habitat in the WCA 3B and 58.68 hectares (145 acres) in ENP that replaces the foraging value matching the hydroperiod of the wetlands affected and provides foraging value similar to, or higher than, that of impacted wetlands (Table 3). The only short hydroperiod habitat (i.e. inundated for less than 180 days) being impacted by the Project are poor quality barren/disturbed areas such as levees, water development structures, and spoil piles (Table 3). Moreover, the Corps will be reconnecting historic sloughs along the Blue Shanty flow way in WCA 3B that have been encroached with sawgrass due to changes in hydrology (Corps 2014). The Corps proposes to reconnect and improve flows in a total 406 hectares (1,003 acres) of which 154.83 hectares (382.6 acres) are expected to increase in hydroperiod due to the hydrologic improvements from the active vegetation management (Figure 4). These habitat enhancements will increase the wood stork prey biomass by an estimated 256 kg (Table 3).

The Corps proposes to use herbicides (glyphosate and flumioxazin) to remove encroaching sawgrass from the historic sloughs along the Blue Shanty flow way. Glyphosate is no more than slightly toxic to birds and is practically nontoxic to fish and aquatic invertebrates (EPA 1993). Flumioxazin is practically nontoxic to birds and moderately toxic to fish and aquatic invertebrates (EPA 2003). Because most of the components of glyphosate-based herbicides bind to sediment and degrade quickly, it is generally assumed that contamination of aquatic and terrestrial habitats with this herbicide represent low risk for nontarget organisms (Relyea 2005). The use of herbicides (glyphosate and flumioxazin) on 406 hectares (1,003 acres) has the potential to temporarily reduce the prey base since glyphosate and flumioxazin have been shown to be moderately toxic and/or reduce growth of crayfish (Frontera et al. 2011; Banaee et al. 2019) and other aquatic invertebrates (EPA 2003). Acute toxicity to small prey fish is not expected since the Corps will be using the lowest effective concentration to minimize undesirable effects to nontarget organisms (Folmar et al. 1979). The Corps is also spraying by airboat for a more targeted treatment of the vegetation in the sloughs and only plans to do a one-time application with a subsequent spot treatment if needed approximately 6 to 12 months after the first spray concludes. Treatments will occur after the wood stork nesting season, reducing the exposure and/or impacts to wood storks. Therefore, any potential indirect effects to wood storks and their prey from the use of herbicides for the active vegetation management will be temporary and insignificant.

The Corps has agreed to follow the Service's *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (Service 1990) during construction of the Project components. Project impacts to suitable foraging habitat (SFH) have been avoided and minimized to the extent practicable. Based on this site-specific information, the Service believes that any direct effects to the wood stork would be insignificant. Considering that the Project is intended to enhance the hydrology in the adjacent wetlands, the Service believes that the indirect effects to the wood stork will be beneficial. Therefore, the Service concurs with the Corps' determination that the Project "may affect, but is not likely to adversely affect" the wood stork.

### **Eastern Indigo Snake**

The Service is developing a revised consultation key for the eastern indigo snake. While the key is being developed, based on guidance in a November 22, 2019, email from the State Supervisor (subject: Approved distances for consultations involving indigo snakes) the Service has identified an interim approach on when we would recommend consultation under the ESA on eastern indigo snakes based on the expectation that an individual may be present.

In accordance with this guidance, the South Florida Ecological Services Field Office buffered known eastern indigo snake occurrence locations found in the Service's GIS database with a radius of 1 km (0.62 miles). It was determined that there is one indigo snake occurrence within the proposed S-356 Pump Station replacement project (Figure 3). Therefore, the Service has determined that one male indigo snake and one female indigo snake and nest with eggs are reasonably certain to occur within the Project footprint.

The Corps proposes to construct a pump station, spillway, parking area, fuel tank farm, pump station access ramp, and loading dock area at the S-356 Pump Station replacement project site

(Figure 6). The Corps plans to re-align the existing L-29 canal levee causing approximately 2.4 hectares (6 acres) maximum extent of potential wetland impacts. The approximate area that is expected to become open water is 1.5 hectares (3.7 acres), of which 1.3 hectares (3.2 acres) are existing levee. The approximate area of open water that is expected to be filled is 0.24 hectares (0.6 acres). Layne and Steiner (1996) determined the average home range size for a female eastern indigo snake was 18.6 hectares (46 acres) and 74.46 hectares (184 acres) for a male. The S-356 pump station construction project will only impact 2.4 hectares (6 acres) at most, 13% and 3% of a female and male indigo snake home range, respectively. This loss of a portion of an eastern indigo snakes home range will not impair the ability of the individual to feed, breed, and shelter (Service 2017). Moreover, some suitable indigo snake habitat (i.e. freshwater marsh edge) will be created along the realigned L-29 canal levee (Figure 6). The amount of habitat impacted represents a small portion of the combined area of all habitats usable by indigo snakes throughout their range. Therefore, the construction impacts to indigo snake suitable habitat is insignificant.

Increased vehicular traffic and equipment operation has the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. Visual and vibrational disturbance from personnel and machinery during construction activities could also cause indigo snakes to leave the project construction area. This may result in missed foraging and mating opportunities, and these indigo snakes may be more vulnerable to predation and intraspecific aggression. Disturbed indigo snakes may also hide in refugia on site. These indigo snakes may be more vulnerable to injury or mortality during land clearing.

However, the Corps commits to avoiding adverse effects during construction activities as outlined in the *Draft Standard Protection Measures for the Eastern Indigo Snake* (Service 2013b) and implement a speed limit of no more than 25 miles per hour for all vehicular traffic around the project site. Additionally, if an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Holes, cavities, and snake refugia will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work. Based on this information and considering the Corps' commitment to adhere to the protection measures, the Service believes the Project's direct effects to the eastern indigo snake would be insignificant. Therefore, the Service concurs with the Corps' determination that the Project "may affect, but is not likely to adversely affect" the eastern indigo snake.

This document supplements the March 2014 CEPP Programmatic BO (Consultation Code: 04EF2000-2012-F-0290). This letter fulfills the requirements of section 7 of the ESA and further action is not required. In accordance with 50 CFR 402.16(a), reinitiation of consultation is required and shall be requested by the Corps where discretionary Federal involvement or control over the CEPP South has been retained or is authorized by law and if: (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; or (2) the CEPP South is subsequently modified in a manner that causes an effect to the listed species or critical habitats that was not considered in this written concurrence.

If modifications are made to the Project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary. Thank you for your cooperation and effort in protecting federally listed species. If you have any questions, please contact Miles Meyer at 772-469-4271.

Sincerely yours,

Donald (Bob) Progulske  
Everglades Program Supervisor  
South Florida Ecological Services Office

cc: electronic only  
Corps, Jacksonville, Florida (Andrew LoSchiavo, Melissa Nasuti, Angie Dunn)

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Table 1. CEPP South Components, habitat conversion description, wetland hydroperiod class, and acres impacted under the Proposed Action.\*

<b>CEPP South Components</b>	<b>Habitat Conversion</b>	<b>Baseline Hydroperiod Class (Days)</b>	<b>Proposed Action Hydroperiod Class (Days)</b>	<b>Acres</b>
S-631 gated culvert on L-67A with a design capacity of 500 cfs to deliver water from WCA 3A to WCA 3B, east of the L-67D Levee	Marsh to barren/disturbed	Class 6 (0-60)	Class 1 (0-60)	2
S-632 gated culvert on L-67A with a design capacity of 500 cfs to deliver water from WCA 3A to WCA 3B, within the WCA 3B Blue Shanty flow way	Marsh to barren/disturbed	Class 6 (0-60)	Class 1 (0-60)	2.5
S-633 gated culvert on L-67A with a design capacity of 500 cfs to deliver water from WCA 3A to WCA 3B, within the WCA 3B Blue Shanty flow way	Marsh to barren/disturbed	Class 6 (0-60)	Class 1 (0-60)	3
L-67A Spoil Mound Degrade (assumed 2 spoil mounds per S-631 and S-632)	Barren/disturbed to marsh	Class 1 (0-60)	Class 6 (300-330)	14.4
L-67C Gap Degrade	Barren/disturbed to marsh	Class 1 (0-60)	Class 6 (300-330)	9
L-67C Flow way Degrade	Barren/disturbed to marsh	Class 1 (0-60)	Class 6 (300-330)	64
L-29 Degrade	Barren/disturbed to marsh	Class 1 (0-60)	Class 6 (300-330)	46
L-67D Blue Shanty Levee Creation	Marsh to barren/disturbed	Class 6 (300-330)	Class 1 (0-60)	113
L-67 Extension Levee Degrade	Barren/disturbed to marsh	Class 1 (0-60)	Class 6 (300-330)	41
L-67 Extension Backfill	Open water to marsh	Class 7 (330-365)	Class 6 (300-330)	104
East-West Ag Ditch Backfill	Open water to marsh	Class 7 (330-365)	Class 6 (300-330)	81
S-355W-1 gated	Marsh to	Class 6 (300-	Class 1 (0-60)	1.44

spillway located in line with the L-29 Canal at the southern extent of the proposed L-67D levee with a design capacity of 1,230 cfs to convey water from the L-29 Canal within the Blue Shanty flow way, eastward towards the existing S-334 spillway	barren/disturbed	330)		
S-355W-2	Barren/disturbed to open water	Class 1 (0-60)	Class 7 (330-365)	1.09
S-355W-3	Open water (canal) to barren/disturbed	Class 7 (330-365)	Class 1 (0-60)	1.05
New S-356 Pump Station would replace the current temporary pump station and have a design capacity of 1,000 cfs to provide seepage return to ENP	Marsh to barren/disturbed	Class 6 (300-330)	Class 1 (0-60)	6
S-356-2	Barren/disturbed to open water (canal)	Class 1 (0-60)	Class 7 (330-365)	0.5
S-356-3	Open water (canal) to barren/disturbed	Class 7 (330-365)	Class 1 (0-60)	0.6
Active Vegetation Management	Marsh to Open Water (slough)	Class 6 (300-330)	Class 7 (330-365)	382.6**
L-29 Canal Temporary Pumps (S-632-AMI-P2; S-633-AMI-P2; and S-152-AMI-P2)	Marsh to barren/disturbed	Class 6 (300-330)	Class 1 (0-60)	0.069***

\*Reference Table 6-2 of the 2013 CEPP BA for a complete listing of CEPP features proposed within the 2014 CEPP Final PIR/EIS and the associated acres lost (USACE 2013). The above table reflects only those features included in CEPP PPA South and a sub-set of management options previously identified in the 2014 CEPP AMMP that is reflective of the Proposed Action.

\*\* The 2014 CEPP PIR/EIS and AMMP recommended management options to pursue active vegetation management in the Blue Shanty flow way to enhance flow by reconnecting historic

sloughs. Herbicide treatment may impact a total 1,003 acres of which 382.6 acres are expected to convert from Class 6 hydroperiod to Class 7 hydroperiod.

\*\*\* The proposed temporary pumps would be utilized as an interim measure to improve the southerly flow conveyance to the L-29 Canal during the various construction phases and prior to the degrade of the L-29 Levee. When the pumps are removed in advance of the L-29 Levee segment removal, the sump location is expected to be returned to the pre-installation condition.

Table 2. Corps' panther habitat unit analysis for CEPP South construction components (Corps 2020).

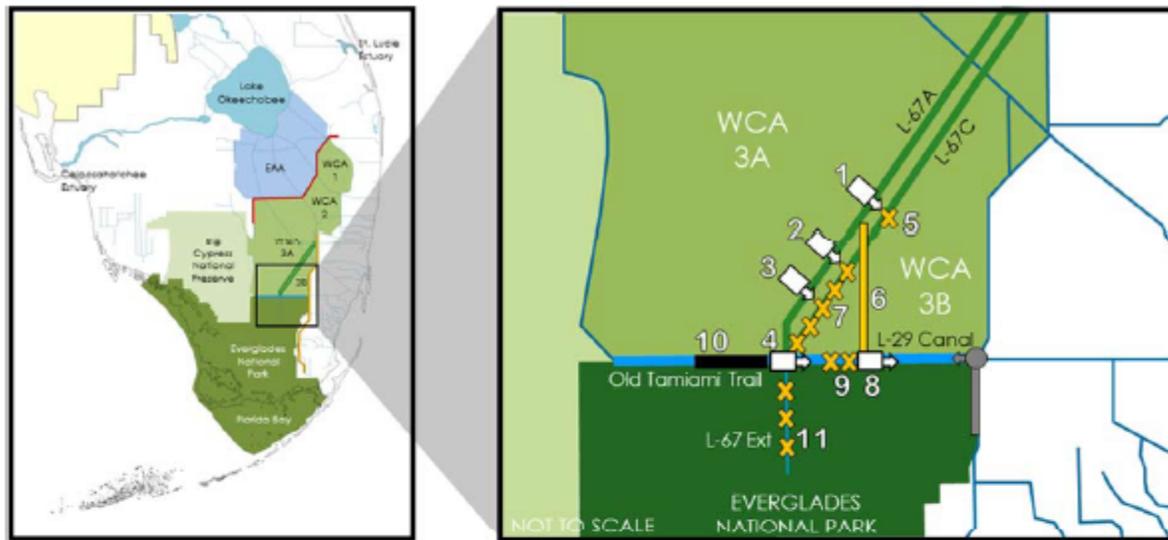
Project Feature	Zone of Impacted Lands	Acres Lost	Panther Habitat Unit Value	Total HUs	Acres Created	Panther Habitat Unit Value	Total HUs
L-67A Spoil Mound Degrade (assumed 3 spoil mounds per S-631, S-632, and S-633) (barren/disturbed to marsh)	Primary	10	3	30	10	4.7	47
L-67C Gap Degrade (barren/disturbed to marsh)	Primary	9	3	27	9	4.7	42.3
L-67C Flowway Degrade (barren/disturbed to marsh)	Primary	64	3	192	64	4.7	300.8
L-29 Degrade (barren/disturbed to marsh)	Primary	46	3	138	46	4.7	216.2
Blue Shanty Levee Creation (marsh/wet) prairie to barren/disturbed)	Primary	113	4.7	531.1	113	3	339
L-67 Extension Levee Degrade (barren/disturbed to marsh)	Primary	41	3	123	41	4.7	192.7
L-67 Extension Backfill (water to marsh)	Primary	104	0	0	104	4.7	488.8
Old Tamiami Trail Road Degrade (barren/disturbed to marsh)	Primary	31	3	93	31	4.7	145.7
East-West Agricultural Ditch Backfill (water to marsh)	Primary	5	0	0	5	4.7	23.5
<b>Total</b>		<b>423</b>	<b>22.7</b>	<b>1,134.1</b>	<b>423</b>	<b>40.6</b>	<b>1,796</b>

Table 3. Net change of wood stork foraging acreage and prey biomass (kg) per hydroperiod class due to the permanent wetland effects from the CEPP South construction components and the active vegetation management in the Blue Shanty flow way. The methodology used for analysis of wood stork foraging prey base losses and enhancements from wetland impacts are described in Service (2010).

Hydroperiod	Baseline (Acres)	Proposed Project (Acres)	Net Change Per Hydroperiod Class	
			Acres	Prey Biomass (kg)
Class 1: 0 to 60 Days*	175.99	129.59	-46.4	-18.91
Class 2: 60 to 120 Days	0	0	0	0
Class 3: 120 to 180 Days	0	0	0	0
Class 4: 180 to 240 Days	0	0	0	0
Class 5: 240 to 300 Days	0	0	0	0
Class 6: 300 to 330 Days	510.54	359.4	-151.14	-667.92
Class 7: 330 to 365 Days**	186.65	384.19	197.54	943.11
Short (0 to 180)	175.99	129.59	-46.4	-18.91
Long (180 to 365)	697.19	743.59	46.4	275.19
TOTAL	873.18	873.18	0	256.28

\*Acreage in this hydroperiod class include barren/disturbed habitat such as levees, water development structures, and spoil piles. There is no other short hydroperiod wetland habitat type in the construction footprint of the proposed project.

\*\*The proposed project includes active vegetation management in the Blue Shanty flow way to reconnect historic sloughs.



#	STRUCTURE	STRUCTURE/FEATURE TYPE	CFS	TECHNICAL NOTES
1	S-631	Gated Culvert	500	Delivers water from WCA 3A to 3B, east of L-67D Levee
2	S-632	Gated Culvert	500	Delivers water from WCA 3A to 3B, west of L-67D Levee
3	S-633	Gated Culvert	500	Delivers water from WCA 3A to 3B, west of L-67D Levee
4	S-333 (N)	Gated Spillway w/new canal	1150	Delivers water from L-67A Canal to L-29 Canal; supplements existing S-333 gated spillway
5		L-67C Levee Removal Gap		Gap, ~ 6000 feet (corresponding to S-631)
6	L-67D	Blue Shanty Levee		Levee, ~ 8.5 miles, connecting from L-67A to L-29 (6 feet high, 14-foot crest width, 3:1 side slopes)
7		L-67C Levee Removal		Complete removal of ~ 8 miles from New Blue Shanty Levee (L-67D) south to intersection of L-67A/L-67C; L-67C canal is not backfilled
8	S-355W	Gated Spillway	1230	Maintains water deliveries to eastern L-29 Canal
9		Levee Removal (L-29)		Removal of ~ 4.3 miles between L-67A and Blue Shanty Levee intersection with L-29 Levee
10		Removal of remnants of Old Tamiami Trail roadway		Removal of ~ 6 miles of roadway west of L-67 Extension
11		L-67 Extension Levee Removal and Canal Backfill)		Complete removal of ~ 5.5 miles of remaining L-67 Extension, including S-346 culvert

Figure 1. Location map and individual components of the CEPP South PPA (Corps 2020). The S-333N and the Old Tamiami Trail roadway removal projects are not part of this consultation.

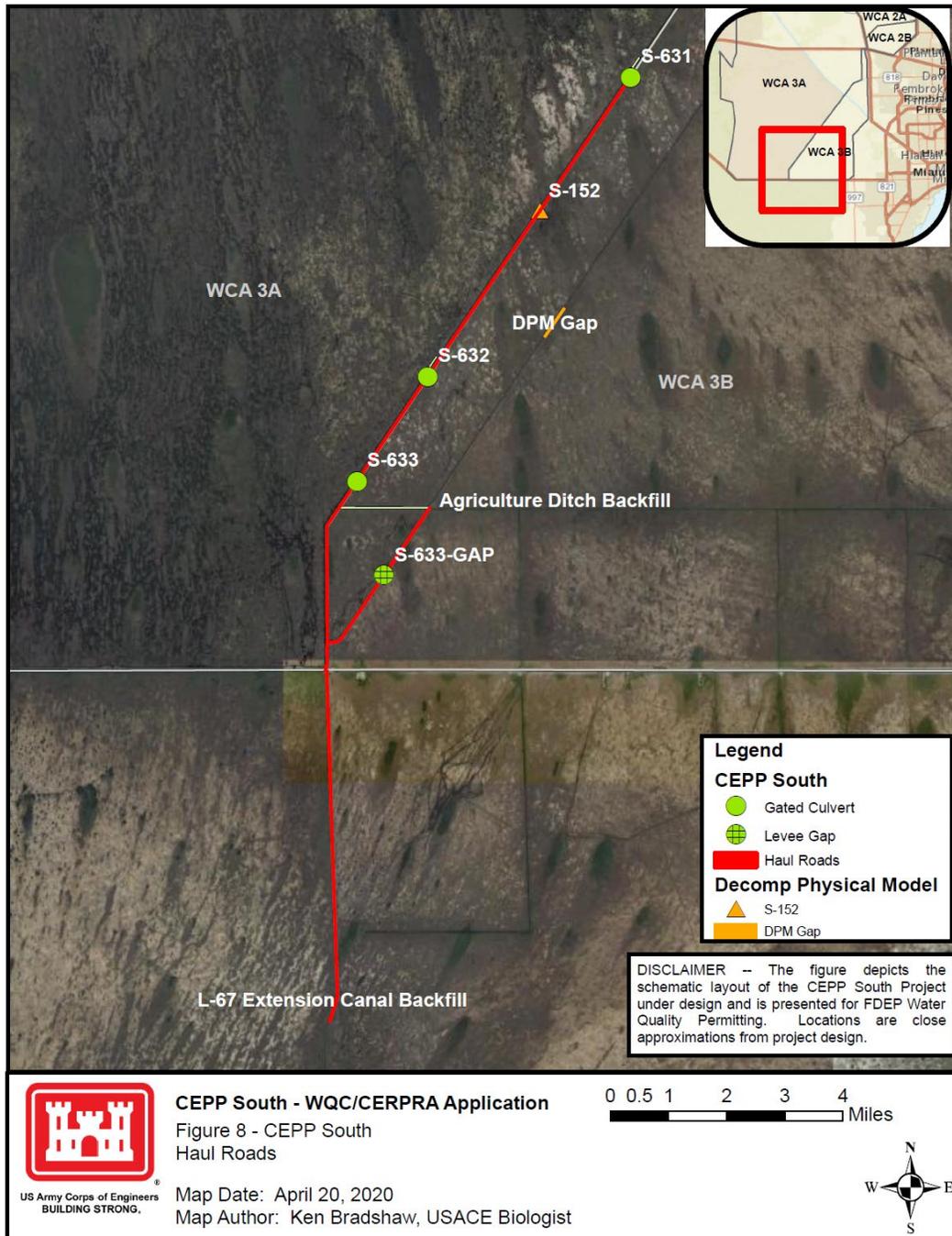


Figure 2. Locations of temporary access roads to access project sites and haul excess spoil and/or levee degrade material.

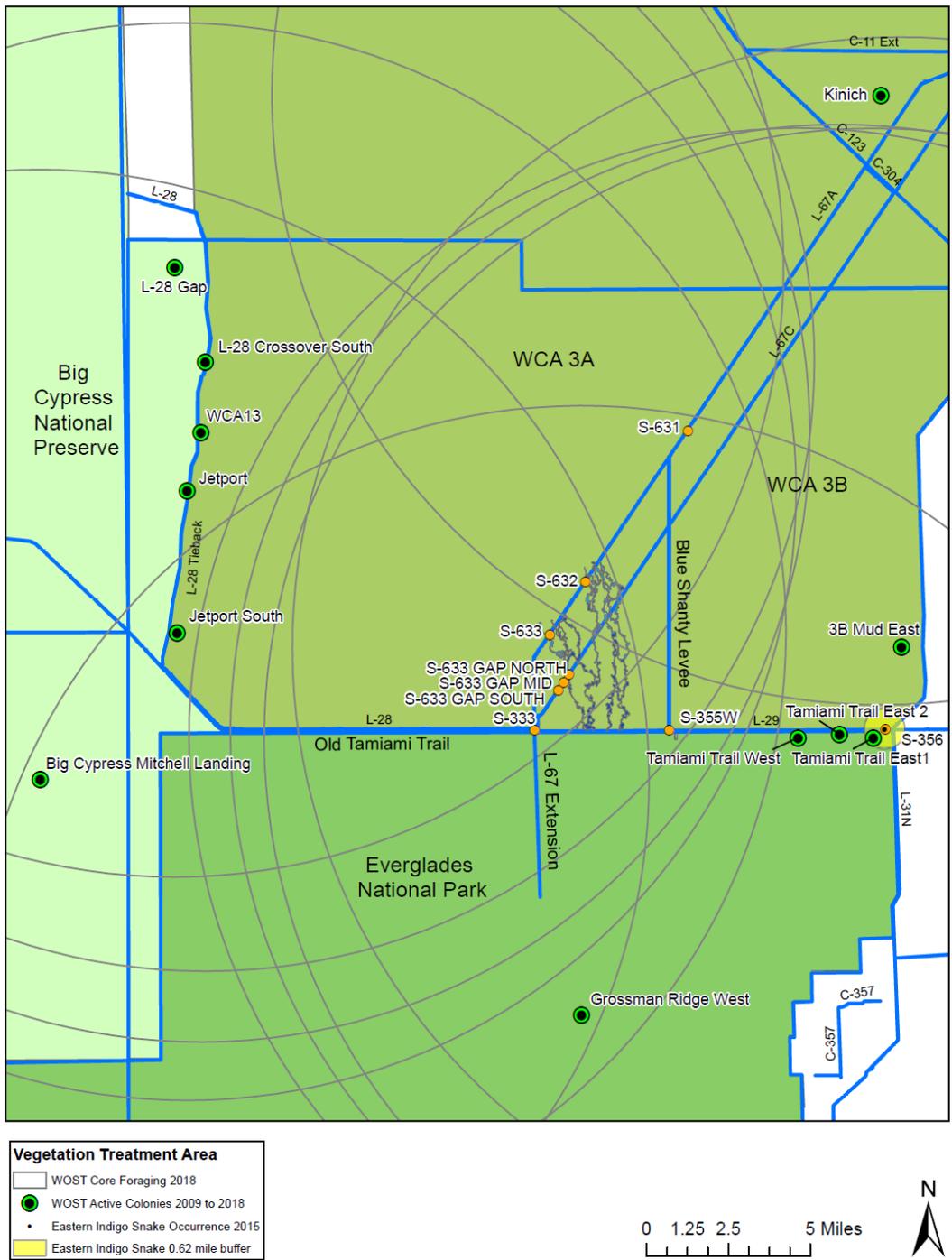


Figure 3. Wood stork (WOST) colonies, Core Foraging Areas (CFA), and eastern indigo snake occurrences located within the Action Area.

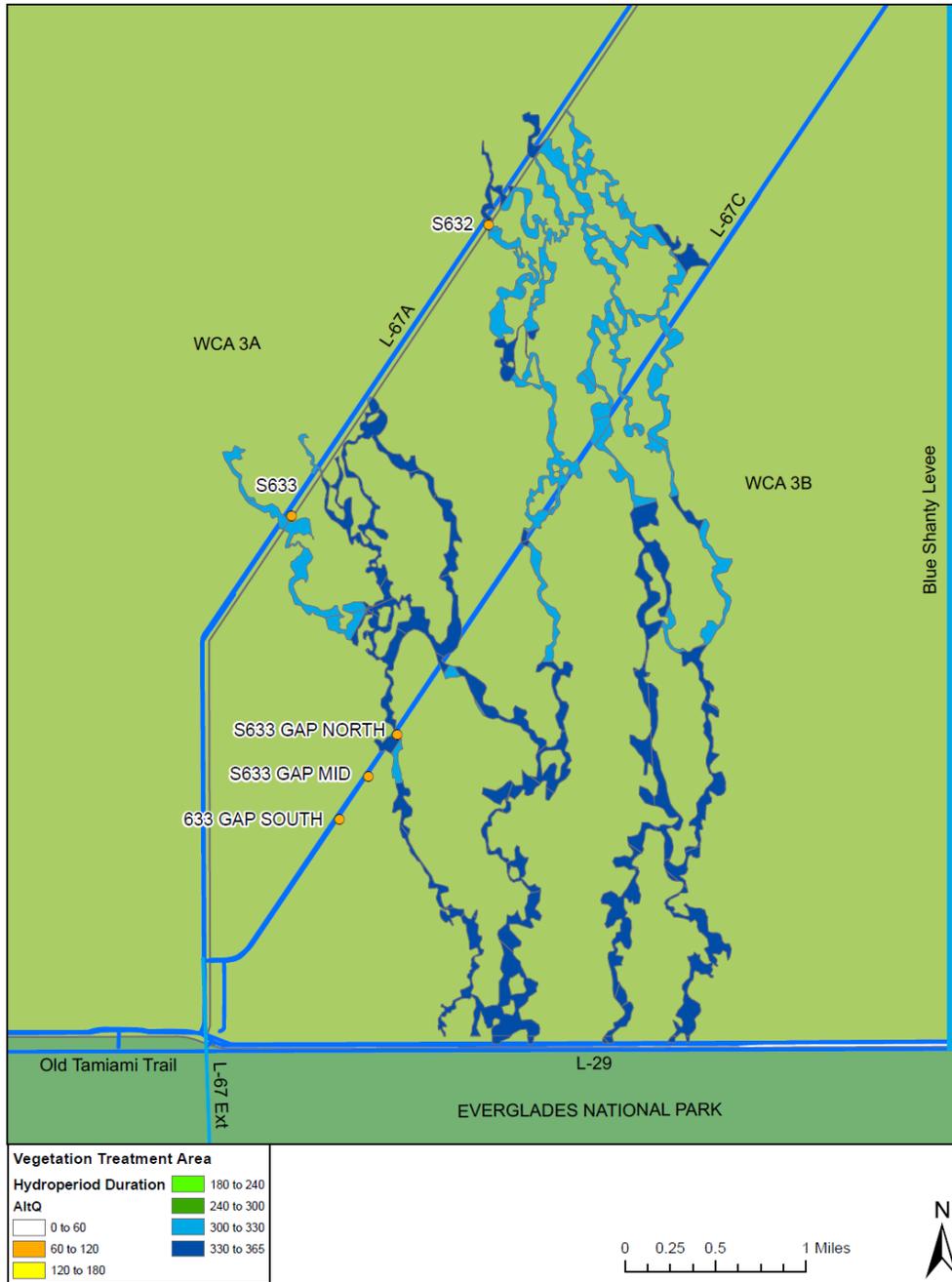


Figure 4. Location of the S-632, S-633 features and active vegetation treatment area with corresponding average annual (1965-2005) hydroperiod class under the COP ALTQ model run.

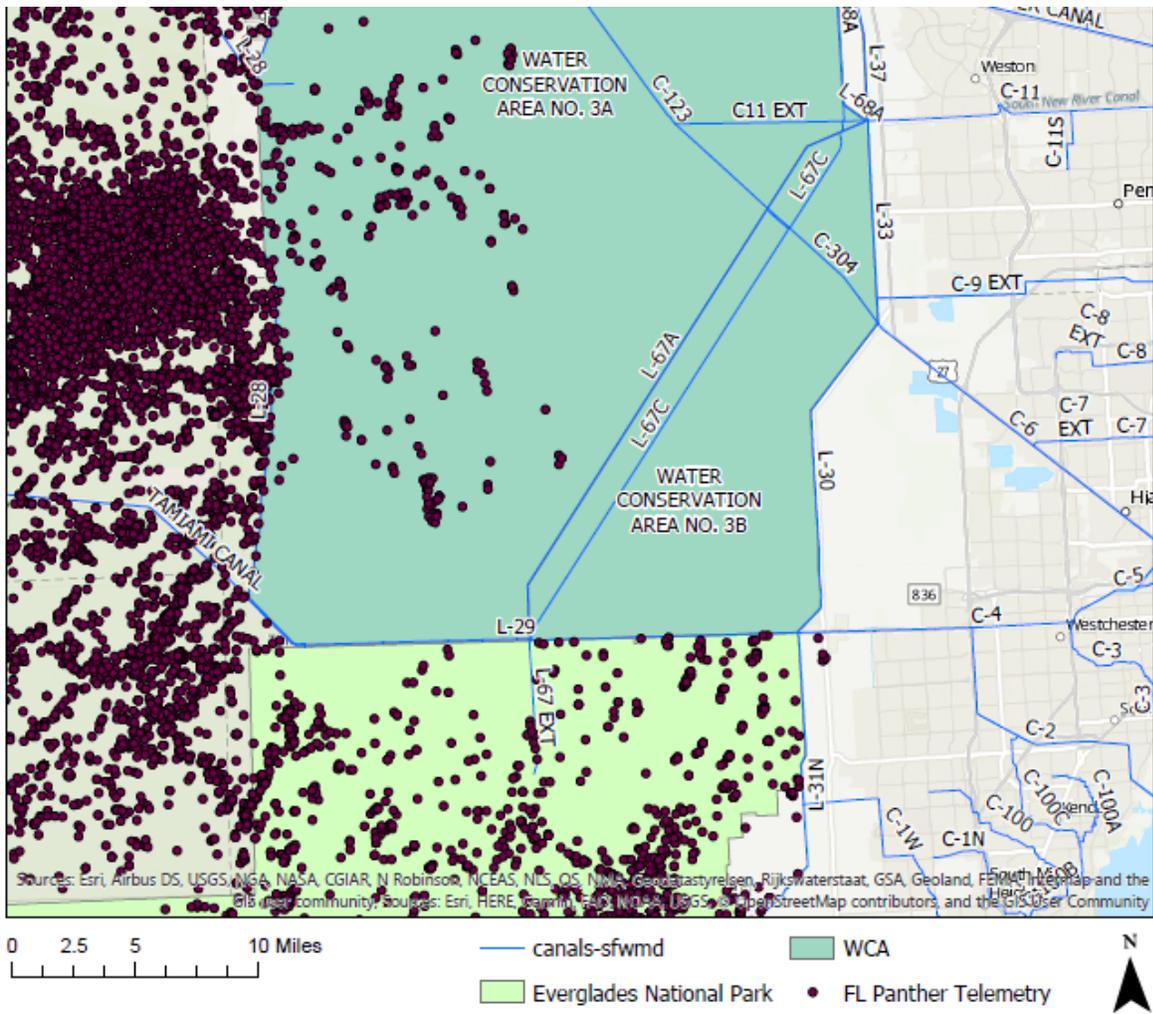


Figure 5. Panther telemetry locations near the project area.



Figure 6. Preliminary design and location of the proposed CEPP South S-356 pump station. The blue polygon represents the pump station footprint. The northern brown polygon represents a parking area, the location of a fuel tank farm, pump station access ramp, and loading dock area. The purple polygon represents the spillway footprint. The southern brown polygon will be infill and will also provide a loading dock area. All areas between the green lines are expected to be open water. The pink line represents the re-aligned levee.



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO LORIDA OULEVARD  
JACKSONVILLE, FLORIDA 32207-8175

Planning and Policy Division  
Environmental Branch

15 May 2020

David Bernhardt  
NOAA's National Marine Fisheries Service  
Acting Assistant Regional Administrator  
Protected Resources Division  
263 13<sup>th</sup> Ave South  
St. Petersburg, FL 33701

Dear Mr. Bernhardt:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The National Marine Fisheries Service (NMFS) provided a Programmatic Biological Opinion for the Comprehensive Everglades Restoration Plan (CERP), which included the CEPP, to the Corps on December 17, 2013. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

Components included in the first construction contract for CEPP South include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot levee gap on the L-67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014 with the Final Project Implementation Report and Environmental Impact Statement (PIR/EIS). Changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS are not being proposed as part of this EA. This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years. Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects of proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The proposed action does not warrant re-initiation of consultation under the 2013 Programmatic BO for the CERP. The Corps has determined that effects of construction and interim operations (as defined in the 2020 CEPP DPOM) of features associated with CEPP South Contract 1 would have no effect on federally listed threatened and endangered species under the purview of the NMFS in accordance with provisions of Section 7 of the Endangered Species Act of 1973, as amended. Details on the Preferred Alternative and the Corps effect determinations can be found in the project’s EA and Proposed FONSI, which is available for your review on the Jacksonville District’s Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

(On that page, click on the “+” next to “Multiple Counties”. Scroll down to the project name.)

Due to current circumstances with COVID-19, the Corps is requesting that any comments you may have must be submitted in writing to [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil) within 30 days of the date of this letter. Correspondence may also be sent to the letterhead address above, however due to limited staff availability in the District office, electronic submittal of comments via email is preferred for efficiency. Questions concerning CEPP South can also be submitted to Mrs. Melissa Nasuti by telephone at 904-232-1368.

Sincerely,

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Angela E. Dunn  
Chief, Environmental Branch



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8915**

Planning and Policy Division  
Environmental Branch

15 May 2020

Virginia Fay  
NOAA's National Marine Fisheries  
Assistant Regional Administrator  
Habitat Conservation Division  
263 13<sup>th</sup> Ave South  
St. Petersburg, FL 33701

Dear Ms. Fay:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida. This letter also serves to convey the Essential Fish Habitat (EFH) assessment incorporated in the project's EA and Proposed FONSI.

Components included in the first construction contract for CEPP South include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot levee gap on the L-67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014 with the Final Project Implementation Report and Environmental Impact Statement (PIR/EIS). Changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS are not being proposed as part of this EA. This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are

now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years. Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The Corps is initiating coordination with the National Marine Fisheries Service (NMFS) under the EFH consultation requirements of Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The regulations at 50 CFR 600.920 outline the requirement and procedures for federal agencies to consult with the NMFS regarding their action which may adversely impact EFH designated in accordance with the MSFCMA. As per the Findings Agreement between the NMFS and the Corps’ South Atlantic Division dated September 3, 2019, the table below provides reference to where information is located in the EA, with respect to EFH requirements per 50 CFR 600.920(e)(3).

EFH Required Item	Draft EA Location (s)
Description of the Proposed Action	<p>What is the action?</p> <ul style="list-style-type: none"> <li>- Section 1.3 Project Background</li> <li>- Section 2.3.5 Alternative B4 (Preferred Alternative)</li> </ul> <p>What is the purpose of the action?</p> <ul style="list-style-type: none"> <li>- Section 1.4 Project Need or Opportunity</li> </ul> <p>How, when and where will it be undertaken?</p> <ul style="list-style-type: none"> <li>- Section 1.4 Project Need or Opportunity</li> <li>- Section 2.3.5 Alternative B4 (Preferred Alternative)</li> <li>- Appendix A CEPP DPOM</li> </ul> <p>What will be the result of the action?</p> <ul style="list-style-type: none"> <li>- Section 4 Environmental Effects</li> </ul>
Analysis of the potential adverse effects (individual and cumulative) of the action on EFH and the management species	<p>What EFH will be affected by the action?</p> <ul style="list-style-type: none"> <li>- Section 3.1.2 Essential Fish Habitat</li> </ul> <p>What are the adverse effects to EFH that could occur as a result of this action? How would they impact managed species? What would be the magnitude of effects? What would the duration be?</p> <ul style="list-style-type: none"> <li>- Section 4 Environmental Effects, specifically Section 4.9 EFH</li> <li>- Appendix B 404(B)(1) Evaluation</li> </ul>
Proposed Compensatory Mitigation	<ul style="list-style-type: none"> <li>- None required</li> </ul>
Avoidance and Minimization	<ul style="list-style-type: none"> <li>- Section 4.22 Environmental Commitments</li> <li>- Section 4.23 Compliance with Environmental Requirements</li> </ul>

The Corps has determined that effects of construction and interim operations (as defined in the 2020 CEPP DPOM) of features associated with CEPP South Contract 1 would have no effect on EFH and no adverse effects on federally managed fish species. Details on the Preferred Alternative and the EFH assessment can be found in the project's EA and Proposed FONSI, which is available for your review on the Jacksonville District's Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

(On that page, click on the "+" next to "Multiple Counties". Scroll down to the project name.)

Due to the current circumstances with COVID-19, the Corps is requesting that any comments you may have must be submitted in writing to [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil) within 30 days of the date of this letter. Correspondence may also be sent to the letterhead address above, however due to limited staff availability in the District office, electronic submittal of comments via email is preferred for efficiency. Questions concerning CEPP South can also be submitted to Mrs. Melissa Nasuti by telephone at 904-232-1368.

Sincerely,



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Angela E. Dunn  
Chief, Environmental Branch

## **APPENDIX D.2 NATIONAL HISTORIC PRESERVATION ACT PERTINENT CORREPONENCE**

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## D.2 National Historic Preservation Act Pertinent Correspondence

This appendix contains pertinent correspondence related to the Central Everglades Planning South (CEPP South) and the National Historic Preservation Act (NHPA). A brief description of pertinent correspondence is provided below.

### NHPA Consultation

- March 30, 2020: U.S. Army Corps of Engineers (Corps) correspondence to Everglades National Park (ENP) to invite participation as a signatory in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to State Historic Preservation Officer (SHPO) to invite participation as a signatory in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to South Florida Water Management District (SFWMD) to invite participation as a concurring party in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to South Florida Water Management District (SFWMD) to invite participation as a concurring party in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to Miccosukee Indian Tribe of Florida to invite participation as a concurring party in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to Seminole Tribe of Florida to invite participation as a concurring party in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to Seminole Nation of Oklahoma to invite participation as a concurring party in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to Thlopthlocco Tribal Town to invite participation as a concurring party in development of Programmatic Agreement for CEPP South
- March 30, 2020: Corps correspondence to Miami Dade County to invite participation as a consulting party in development of Programmatic Agreement for CEPP South
- May 1, 2020: Corps correspondence to SHPO on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features
- May 1, 2020: Corps correspondence to Miccosukee Indian Tribe of Florida on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features
- May 1, 2020: Corps correspondence to Seminole Tribe of Florida on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features
- May 1, 2020: Corps correspondence to Seminole Nation of Oklahoma on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features
- May 1, 2020: Corps correspondence to Thlopthlocco Tribal Town on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features

- May 1, 2020: Corps correspondence to Miami Dade County on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features
- May 28, 2020: Correspondence from SHPO on potential effect to historic properties under Section 106 of the NHPA for CEPP South Contract 1 features



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

MAR 30 2020

Pedros Ramos  
Superintendent  
Everglades and Dry Tortugas National Parks  
40001 SR-9336  
Homestead, FL 33034

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Mr. Ramos:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Signatory in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

The Corps recognizes the scale and scope of CEPP requires ongoing coordination and consultation. The Corps intends the Working Group to serve as a venue to provide information, collaborate, receive feedback, and develop plans for ensuring compliance with Section 106 of the National Historic Preservation Act (NHPA) during the construction of the CEPP. The CEPP is a large and complex project, with intricate dependencies, dozens of features, and broad potential effects. The input from the Working Group will be used by the Corps to determine areas of potential effect, identify historic properties, assess adverse effects to historic properties, and resolve any adverse effects.

The Corps plans to implement a project partnership agreement with the South Florida Water Management District for the design and construction of CEPP South in June 2020. The Corps has begun efforts necessary for the identification of historic properties within portions of CEPP South, but due to unknown locations of project features, the Section 106 of the NHPA Review Process cannot be completed prior to the implementation of this decision document. In order to comply with Section 106 of the NHPA, the Corps proposes to develop a Programmatic Agreement for CEPP South. This agreement will detail that the Corps will complete the Section 106 of the NHPA Review Process for each feature prior to its approval and construction. Based on the schedule for CEPP North and CEPP New Water, the Corps anticipates the Section 106 of the NHPA Review Process will be completed without the need for a Programmatic Agreement.

The Corps requests a response regarding participation in the Working Group and Programmatic Agreement within 30 days. Please contact Mr. Christopher Altes with any question or concerns by email at [christopher.f.altes@usace.army.mil](mailto:christopher.f.altes@usace.army.mil) or by telephone at (904) 232-1694.

Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure

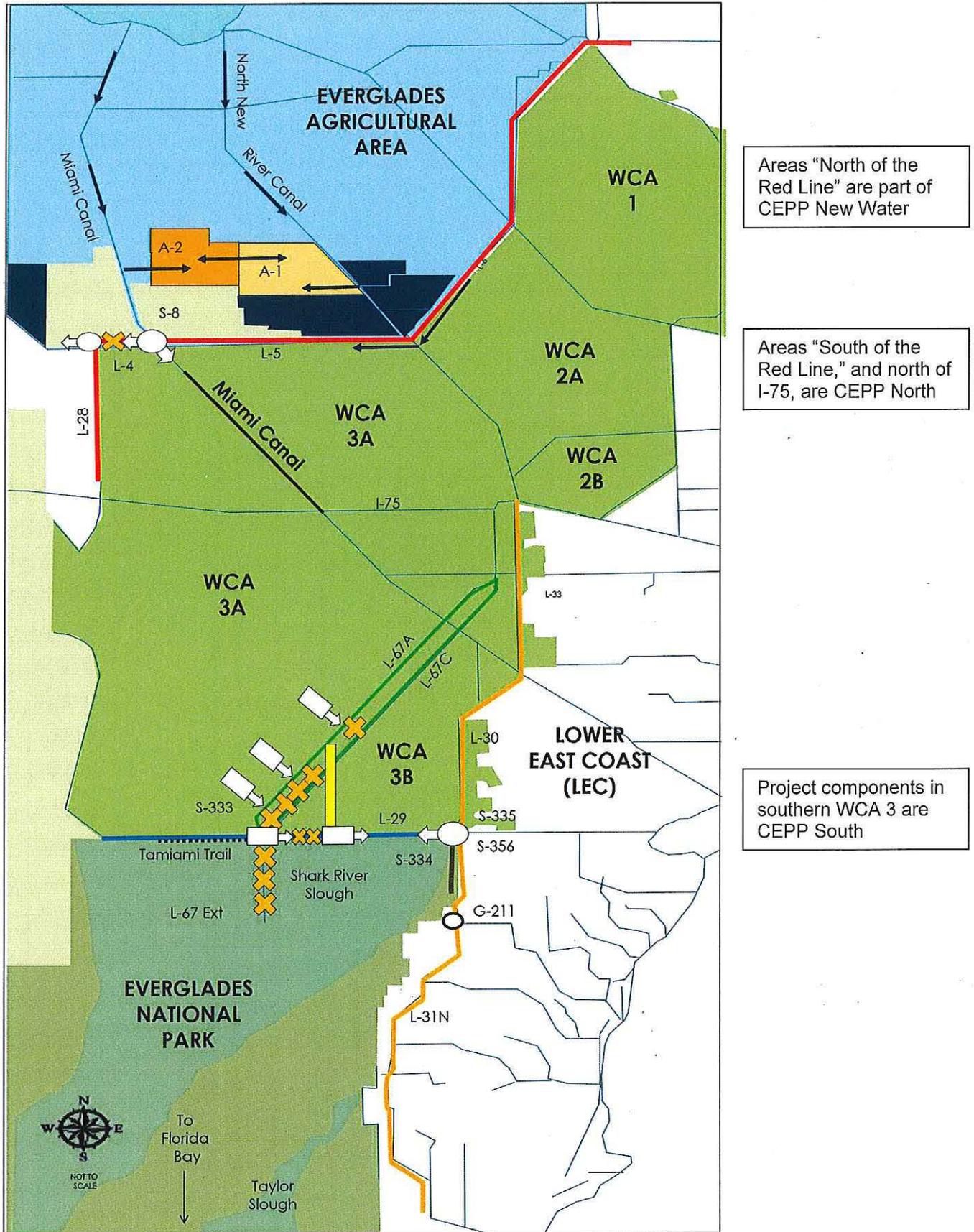


Figure 1. CEPP Features and Components from the 2014 Environmental Impacts Statement

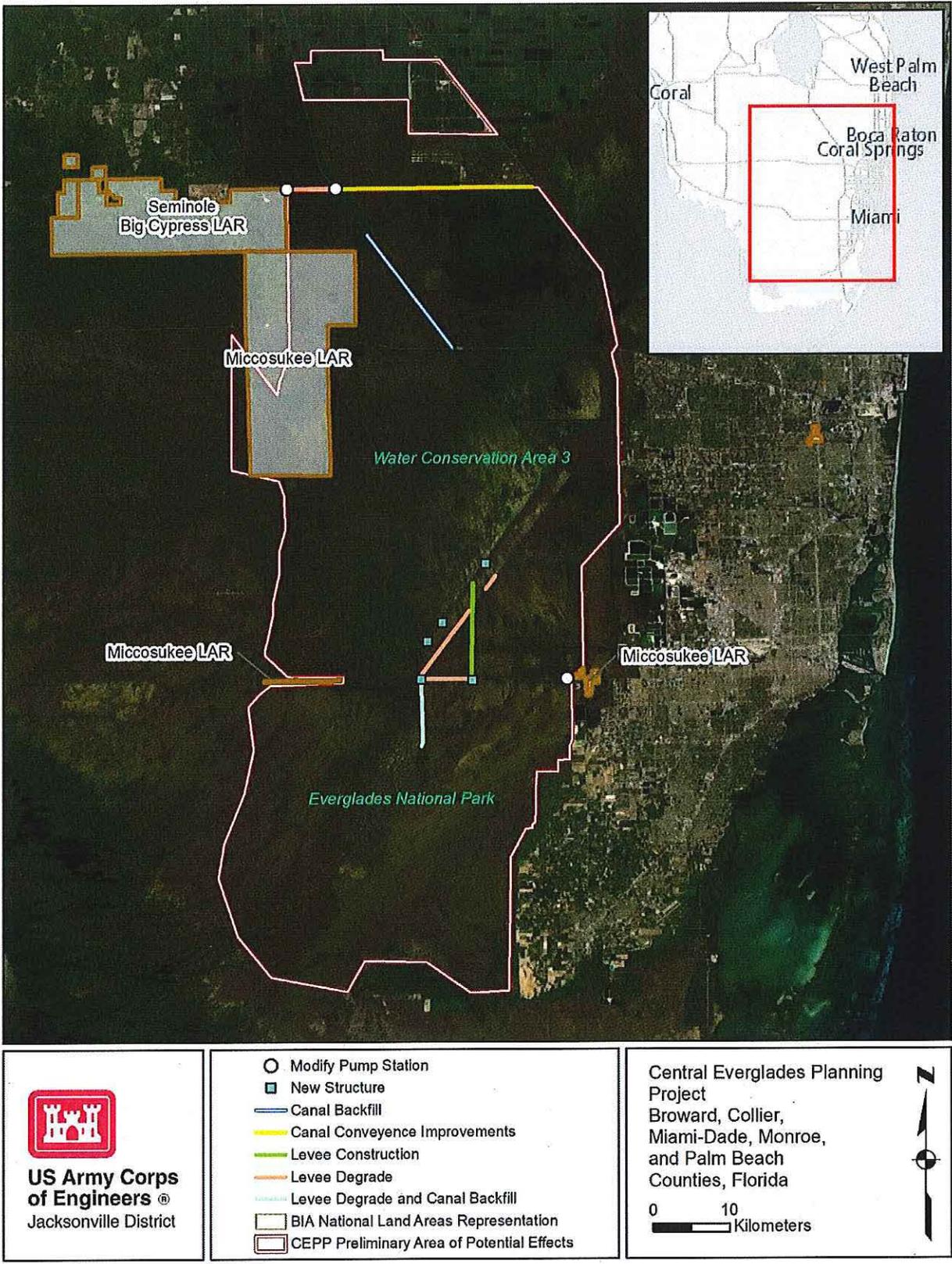


Figure 2. Preliminary CEPP Area of Potential Effects



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

MAR 30 2020

Tim Parsons, Ph.D.  
State Historic Preservation Officer  
Division of Historical Resources  
500 South Bronough Street  
Tallahassee, Florida 32399-0250

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Dr. Parsons:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Signatory in the development of a Programmatic Agreement for CEPP South. The CEPP, is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

The Corps recognizes the scale and scope of CEPP requires ongoing coordination and consultation. The Corps intends the Working Group to serve as a venue to provide information, collaborate, receive feedback, and develop plans for ensuring compliance with Section 106 of the National Historic Preservation Act (NHPA) during the construction of the CEPP. The CEPP is a large and complex project, with intricate dependencies, dozens of features, and broad potential effects. The input from the Working Group will be used by the Corps to determine areas of potential effect, identify historic properties, assess adverse effects to historic properties, and resolve any adverse effects.

The Corps plans to implement a project partnership agreement with the South Florida Water Management District for the design and construction of CEPP South in June 2020. The Corps has begun efforts necessary for the identification of historic properties within portions of CEPP South, but due to unknown locations of project features, the Section 106 of the NHPA Review Process cannot be completed prior to the implementation of this decision document. In order to comply with Section 106 of the NHPA, the Corps proposes to develop a Programmatic Agreement for CEPP South. This agreement will detail that the Corps will complete the Section 106 of the NHPA Review Process for each feature prior to its approval and construction. Based on the schedule for CEPP North and CEPP New Water, the Corps anticipates the Section 106 of the NHPA Review Process will be completed without the need for a Programmatic Agreement.

The Corps requests a response regarding participation in the Working Group and Programmatic Agreement within 30 days. Please contact Mr. Christopher Altes with any question or concerns by email at [christopher.f.altes@usace.army.mil](mailto:christopher.f.altes@usace.army.mil) or by telephone at (904) 232-1694.

Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure

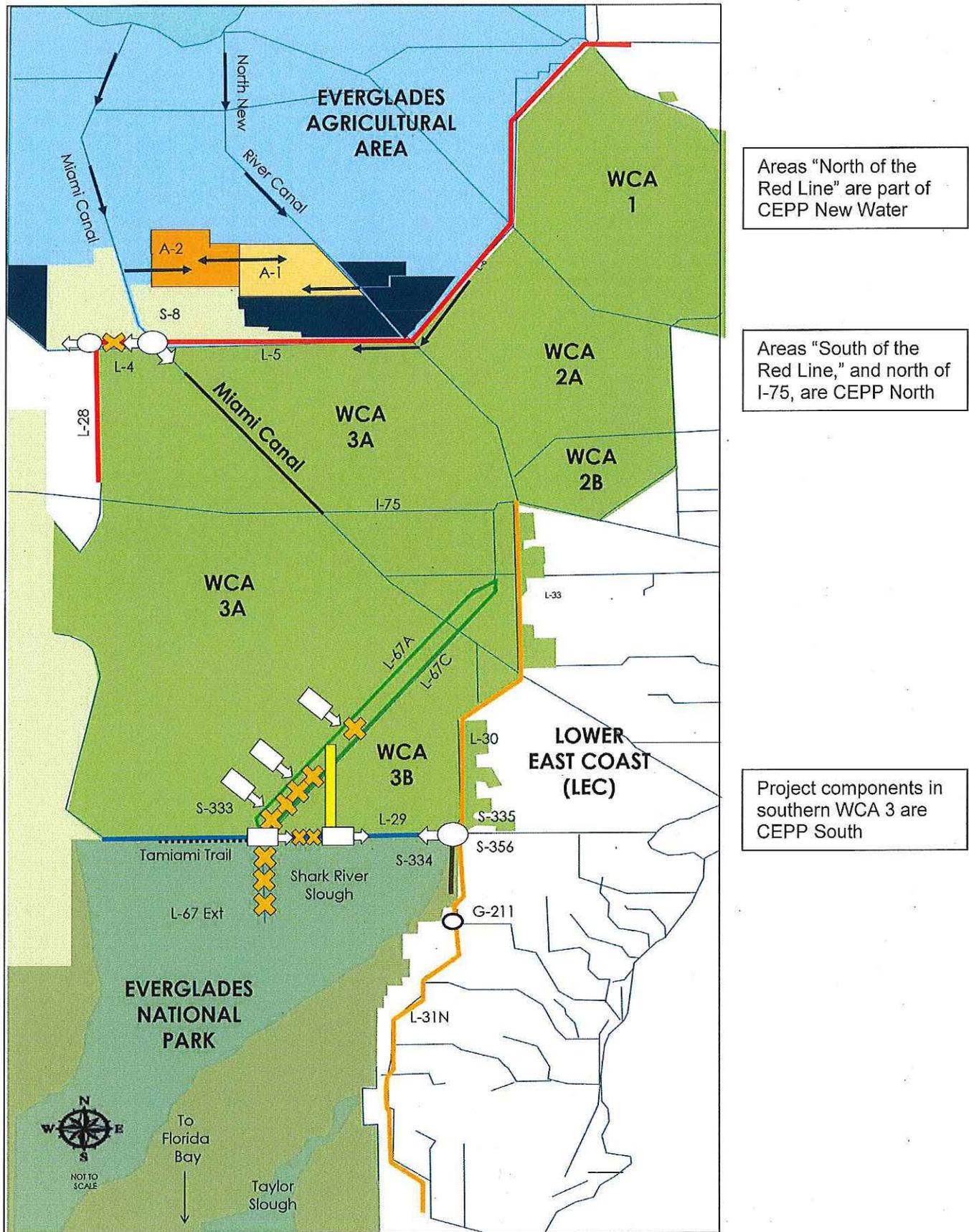


Figure 1. CEPP Features and Components from the 2014 Environmental Impacts Statement

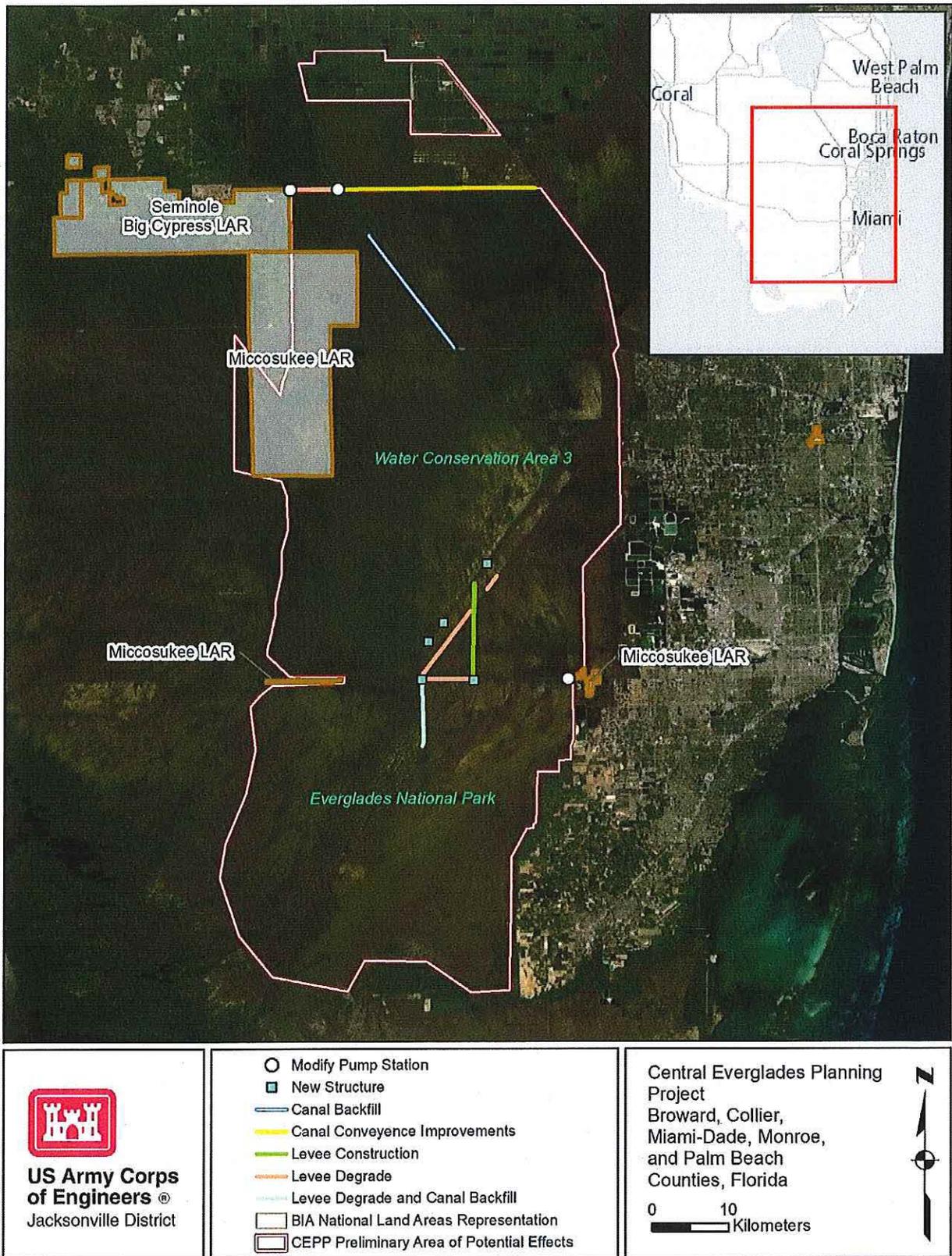


Figure 2. Preliminary CEPP Area of Potential Effects



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

MAR 30 2020

Drew Bartlett  
Executive Director  
South Florida Water Management District  
3301 Gun Club Road  
West Palm Beach, FL 33406

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Mr. Bartlett:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L. 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Concurring Party in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

The Corps recognizes the scale and scope of CEPP requires ongoing coordination and consultation. The Corps intends the Working Group to serve as a venue to provide information, collaborate, receive feedback, and develop plans for ensuring compliance with Section 106 of the National Historic Preservation Act (NHPA) during the construction of the CEPP. The CEPP is a large and complex project, with intricate dependencies, dozens of features, and broad potential effects. The input from the Working Group will be used by the Corps to determine areas of potential effect, identify historic properties, assess adverse effects to historic properties, and resolve any adverse effects.

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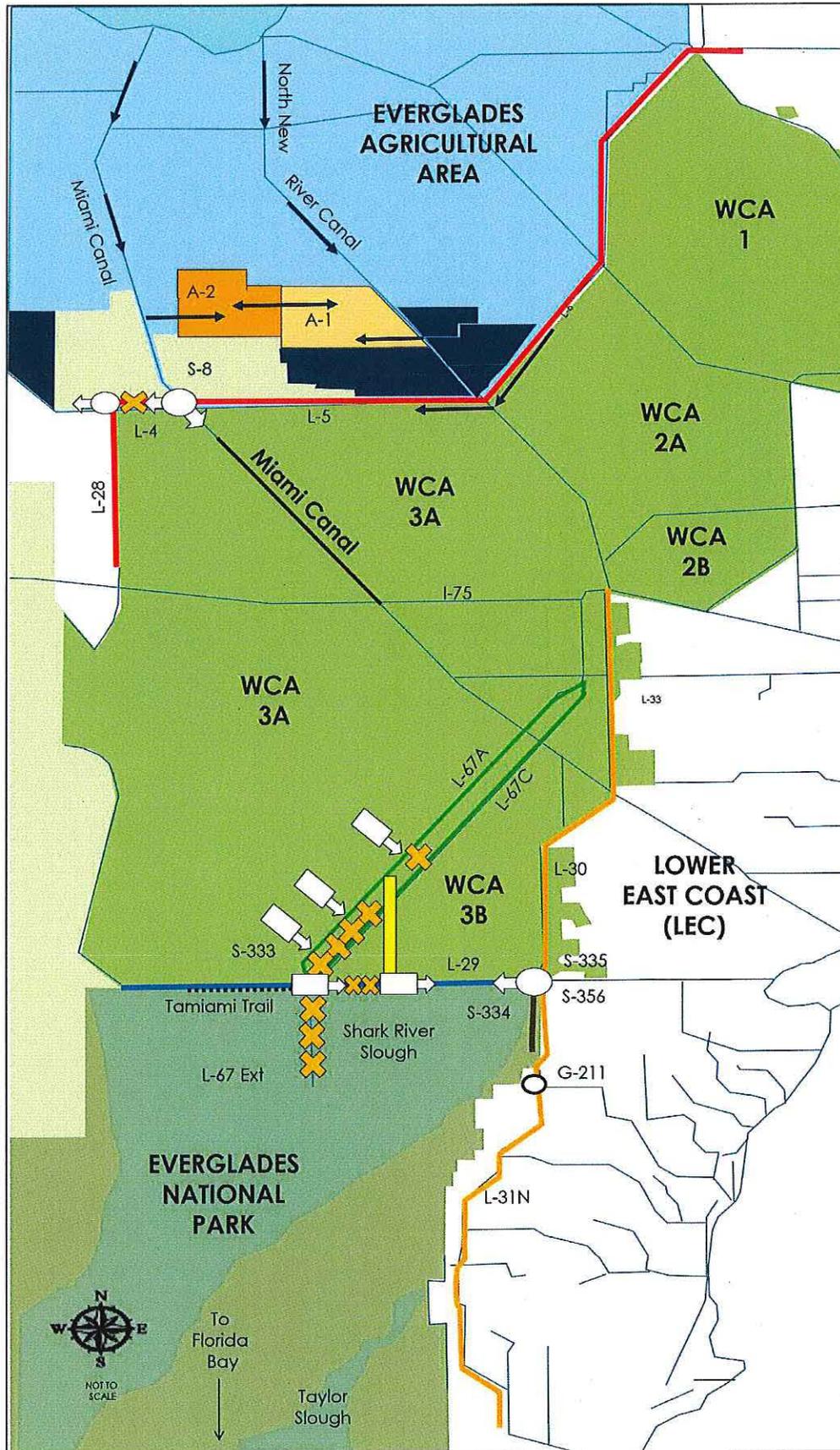
The Corps requests a response regarding participation in the Working Group and Programmatic Agreement within 30 days. Please contact Mr. Christopher Altes with any question or concerns by email at [christopher.f.altes@usace.army.mil](mailto:christopher.f.altes@usace.army.mil) or by telephone at (904) 232-1694.

Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure



Areas "North of the Red Line" are part of CEPP New Water

Areas "South of the Red Line," and north of I-75, are CEPP North

Project components in southern WCA 3 are CEPP South

Figure 1. CEPP Features and Components from the 2014 Environmental Impacts Statement

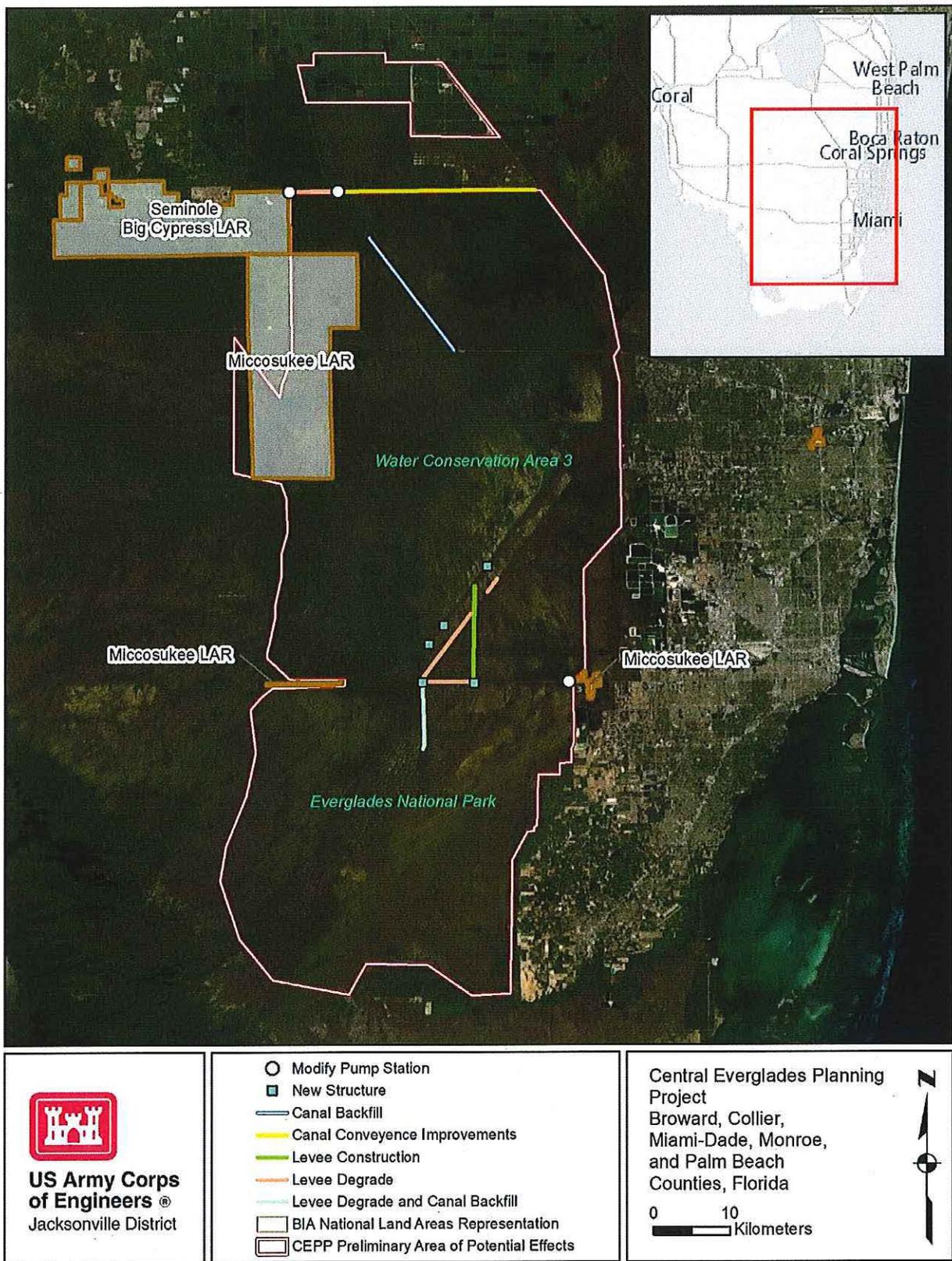


Figure 2. Preliminary CEPP Area of Potential Effects



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CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

MAR 30 2020

Kevin Donaldson  
NAGPRA Representative  
Miccosukee Tribe of Indians of Florida  
P.O. Box 440021  
Tamiami Station  
Miami, FL 33144

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Mr. Donaldson:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L. 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Concurring Party in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

The Corps recognizes the scale and scope of CEPP requires ongoing coordination and consultation. The Corps intends the Working Group to serve as a venue to provide information, collaborate, receive feedback, and develop plans for ensuring compliance with Section 106 of the National Historic Preservation Act (NHPA) during the construction of the CEPP. The CEPP is a large and complex project, with intricate dependencies, dozens of features, and broad potential effects. The input from the Working Group will be used by the Corps to determine areas of potential effect, identify historic properties, assess adverse effects to historic properties, and resolve any adverse effects.

The Corps plans to implement a project partnership agreement with the South Florida Water Management District for the design and construction of CEPP South in June 2020. The Corps has begun efforts necessary for the identification of historic properties within portions of CEPP South, but due to unknown locations of project features, the Section 106 of the NHPA Review Process cannot be completed prior to the implementation of this decision document. In order to comply with Section 106 of the NHPA, the Corps proposes to develop a Programmatic Agreement for CEPP South. This agreement will detail that the Corps will complete the Section 106 of the NHPA Review Process for each feature prior to its approval and construction. Based on the schedule for CEPP North and CEPP New Water, the Corps anticipates the Section 106 of the NHPA Review Process will be completed without the need for a Programmatic Agreement.

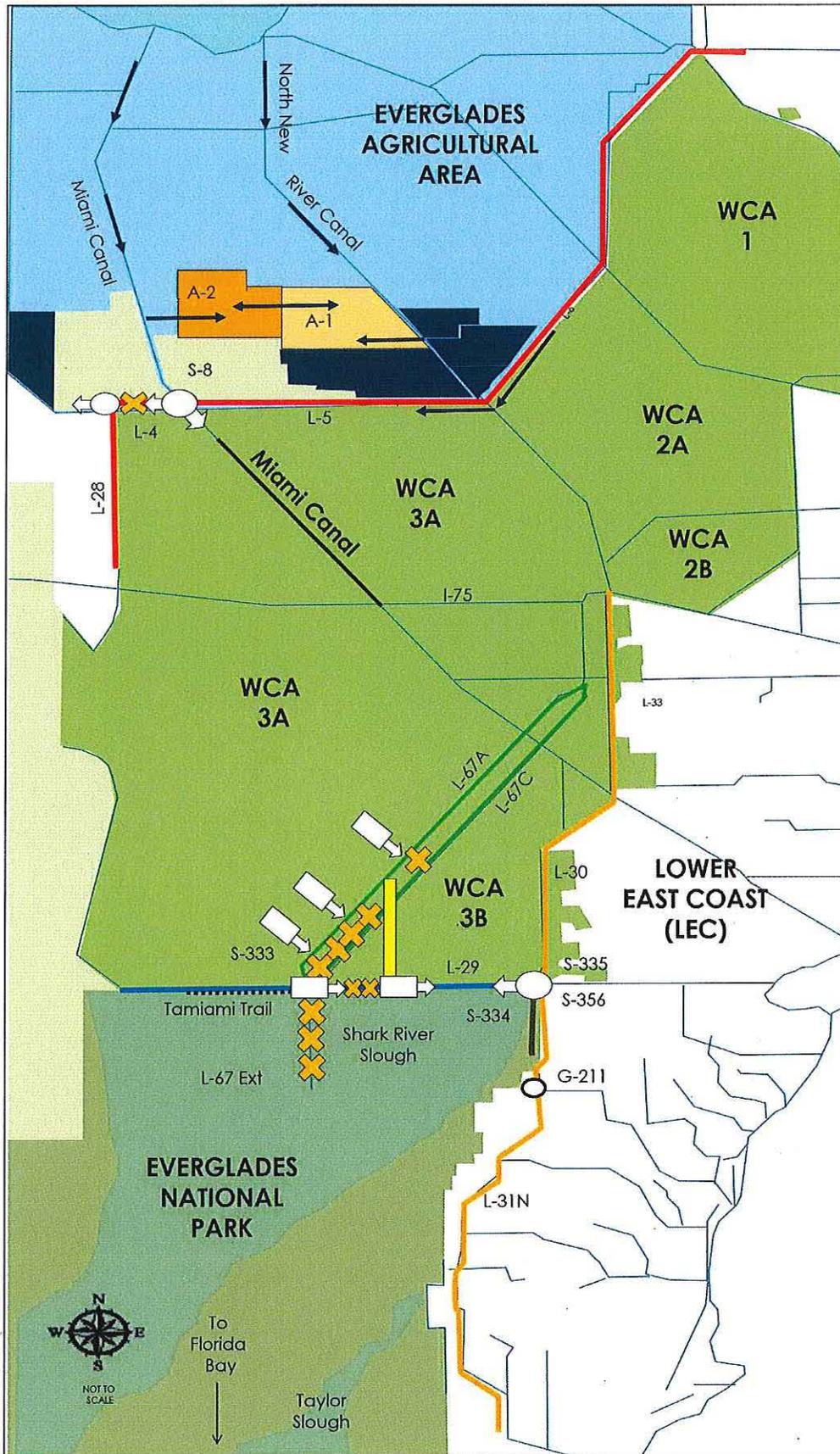
The Corps requests a response regarding participation in the Working Group and Programmatic Agreement within 30 days. Please contact Mr. Christopher Altes with any question or concerns by email at [christopher.f.altes@usace.army.mil](mailto:christopher.f.altes@usace.army.mil) or by telephone at (904) 232-1694.

Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure



Areas "North of the Red Line" are part of CEPP New Water

Areas "South of the Red Line," and north of I-75, are CEPP North

Project components in southern WCA 3 are CEPP South

Figure 1. CEPP Features and Components from the 2014 Environmental Impacts Statement

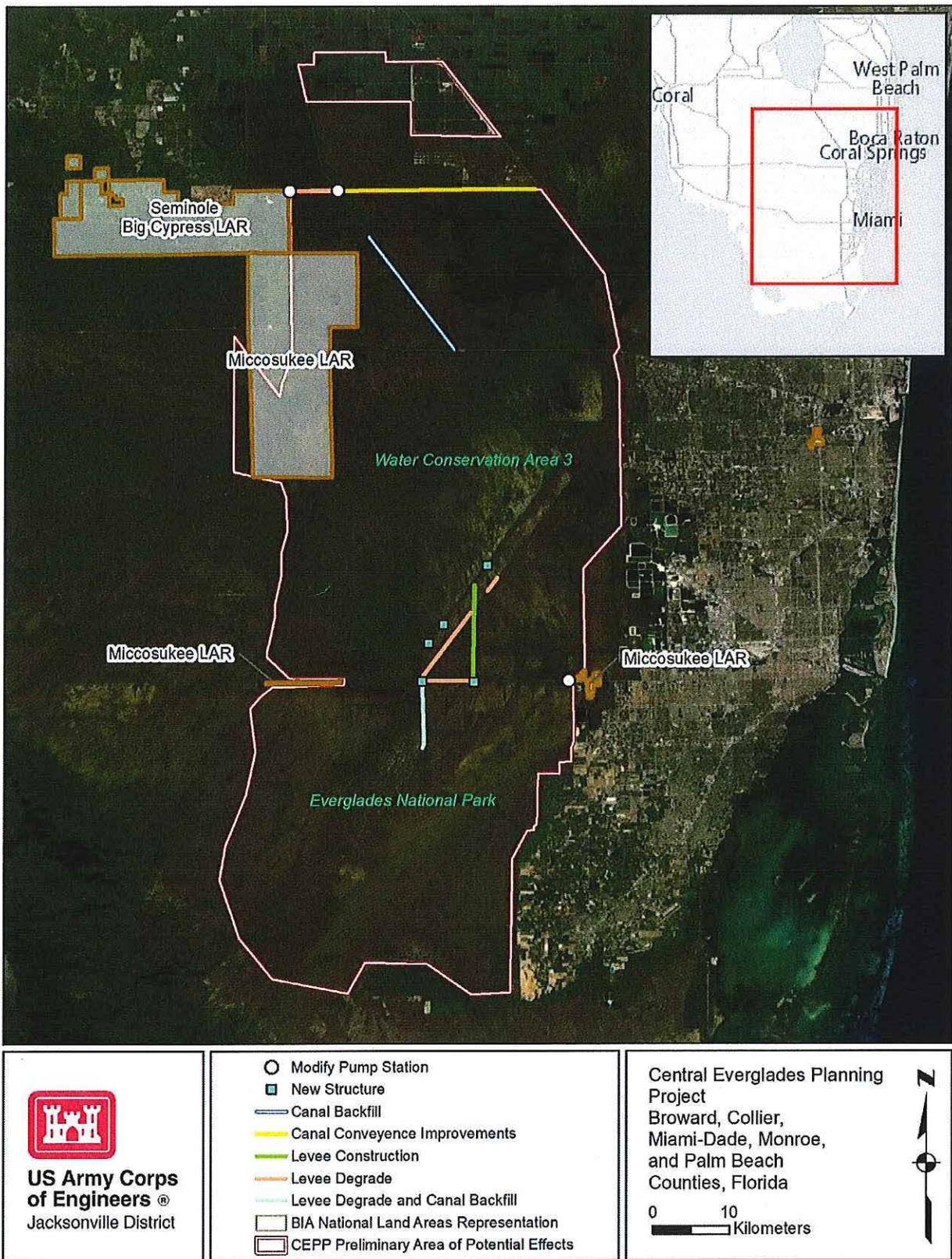


Figure 2. Preliminary CEPP Area of Potential Effects



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Planning and Policy Division  
Environmental Branch

MAR 30 2020

Paul Backhouse, Ph.D  
Tribal Historic Preservation Officer  
Seminole Tribe of Florida  
Ah Tah Thi Ki Museum  
30290 Josie Billie Hwy., PMB 1004  
Clewiston, FL 33440

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Dr. Backhouse:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Concurring Party in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

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Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure

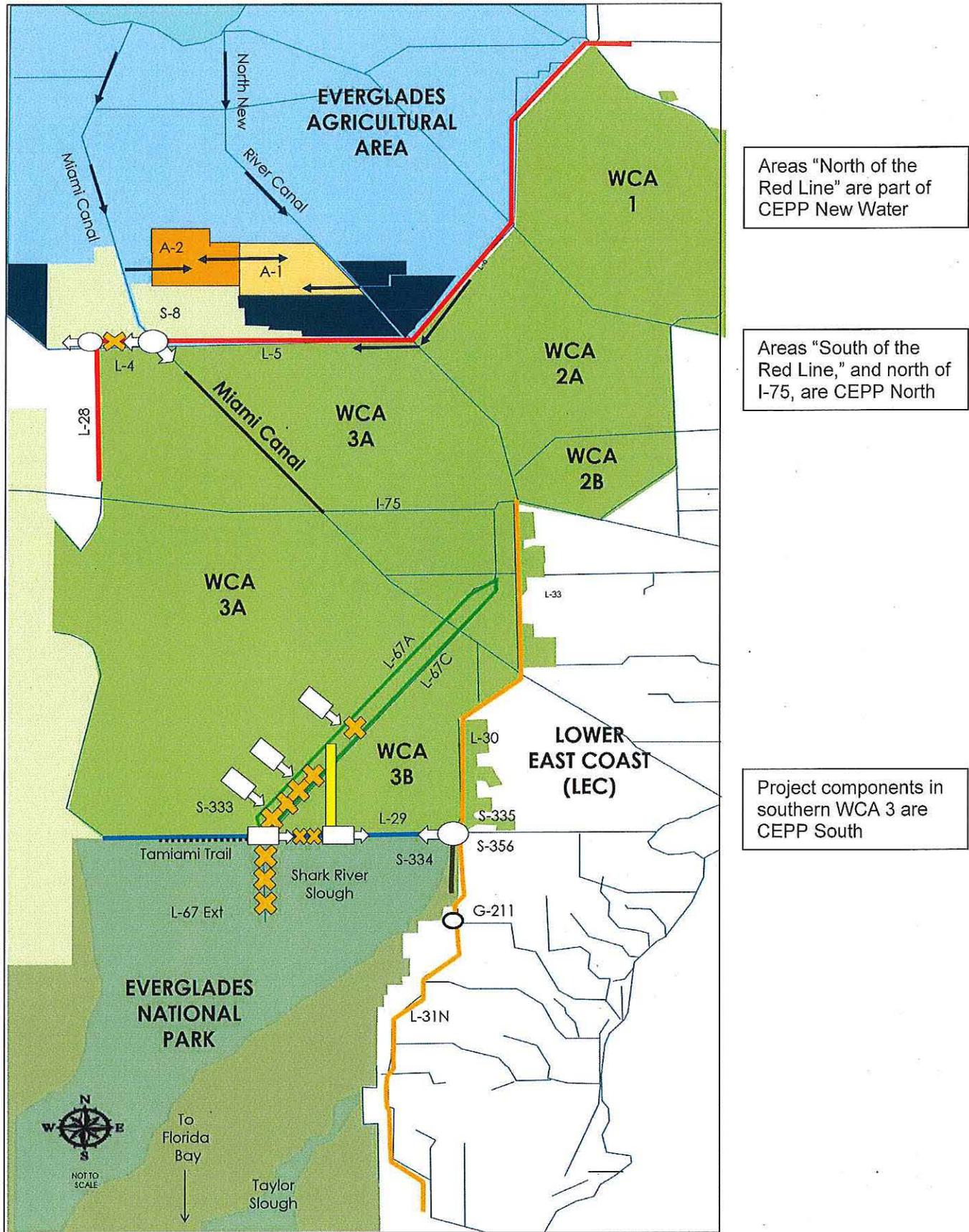


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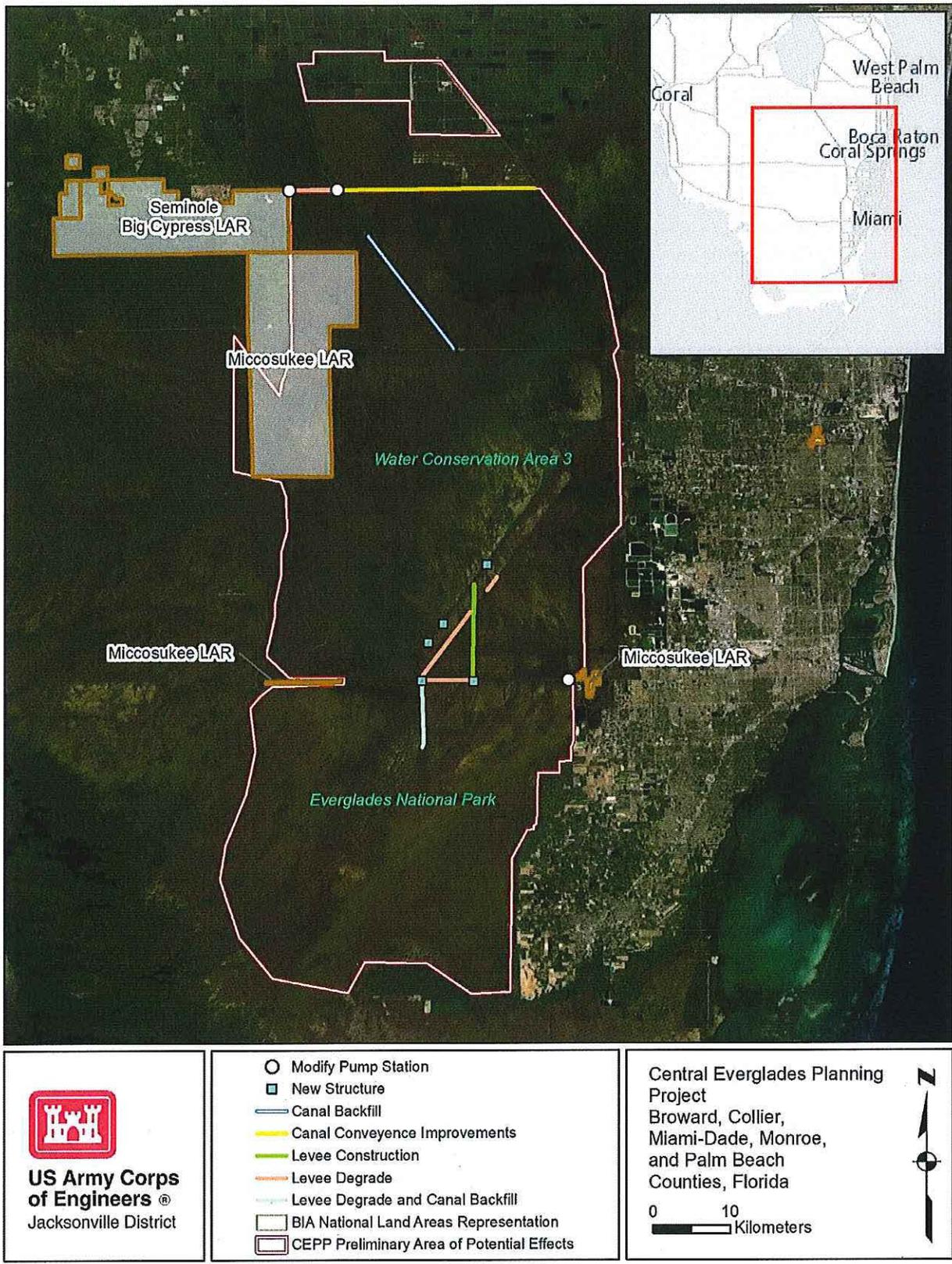


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Planning and Policy Division  
Environmental Branch

MAR 30 2020

David Frank  
Tribal Historic Preservation Officer  
Seminole Nation of Oklahoma  
P.O. Box 1498  
Wewoka, OK 74884

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Mr. Frank:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L. 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Concurring Party in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

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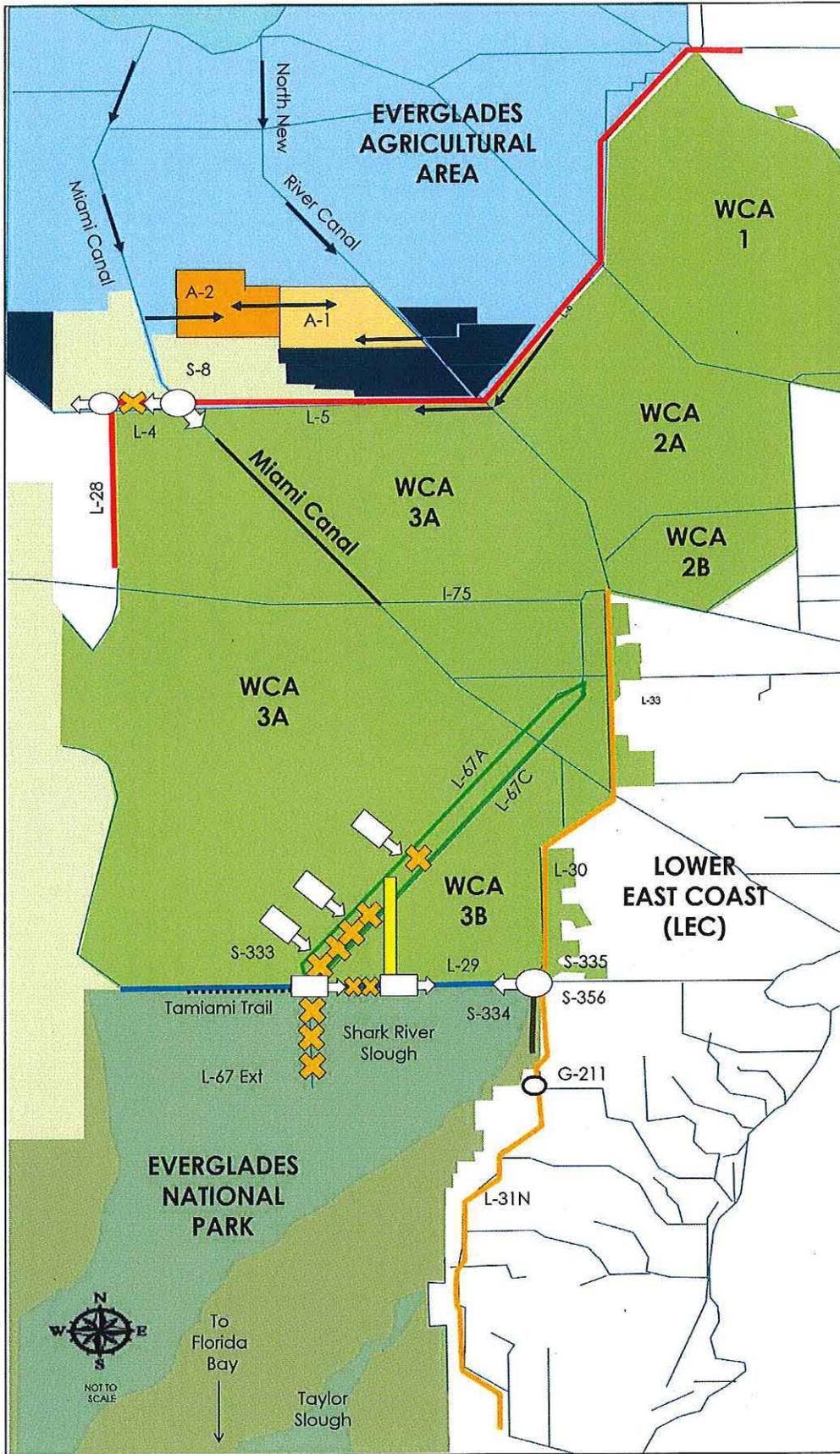
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Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure



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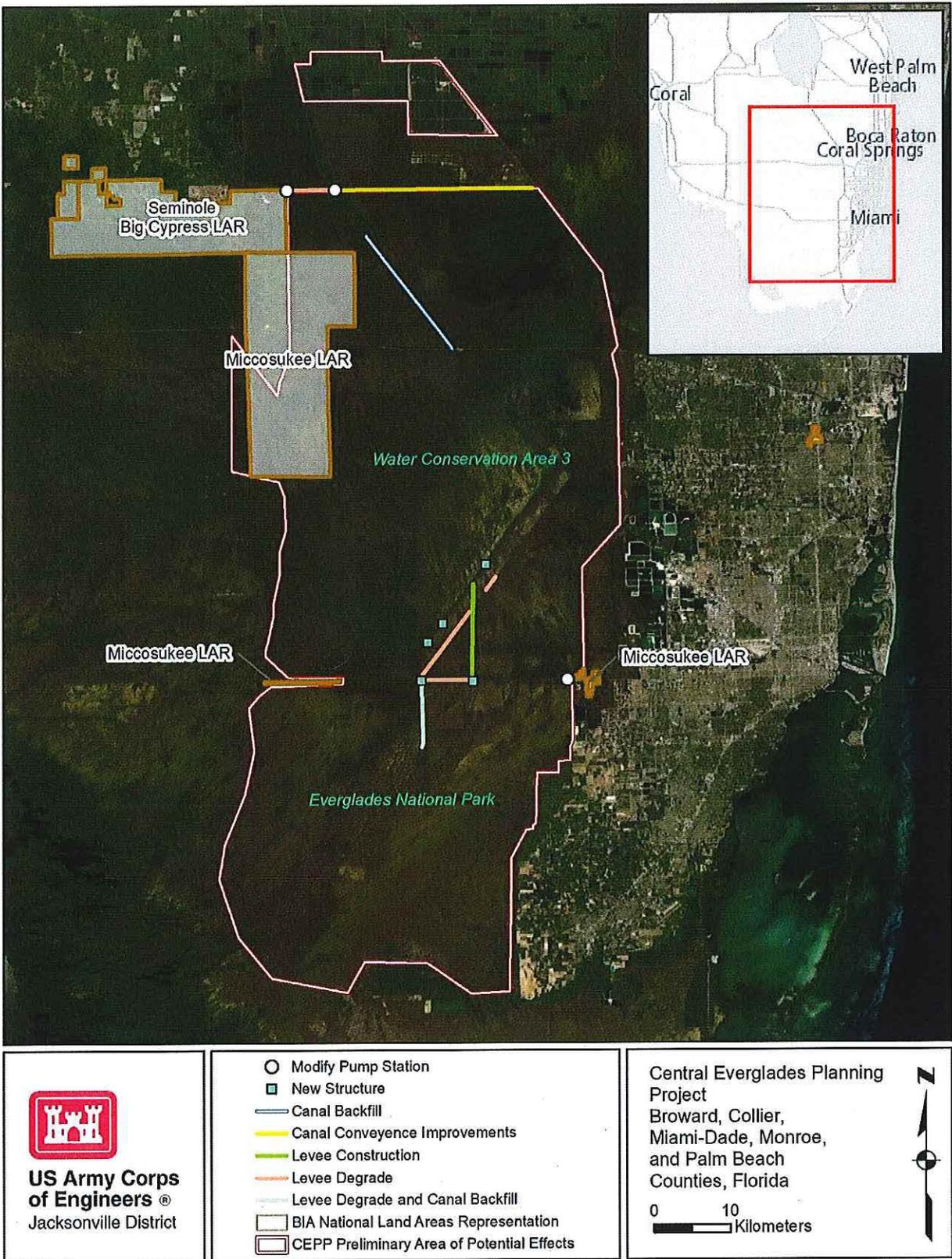


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Planning and Policy Division  
Environmental Branch

MAR 30 2020

Jane Maylen  
Tribal Historic Preservation Officer (acting)  
Thlopthlocco Tribal Town  
P.O. Box 188  
Okemah, OK 74859

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Ms. Maylen:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L. 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Concurring Party in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

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Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure

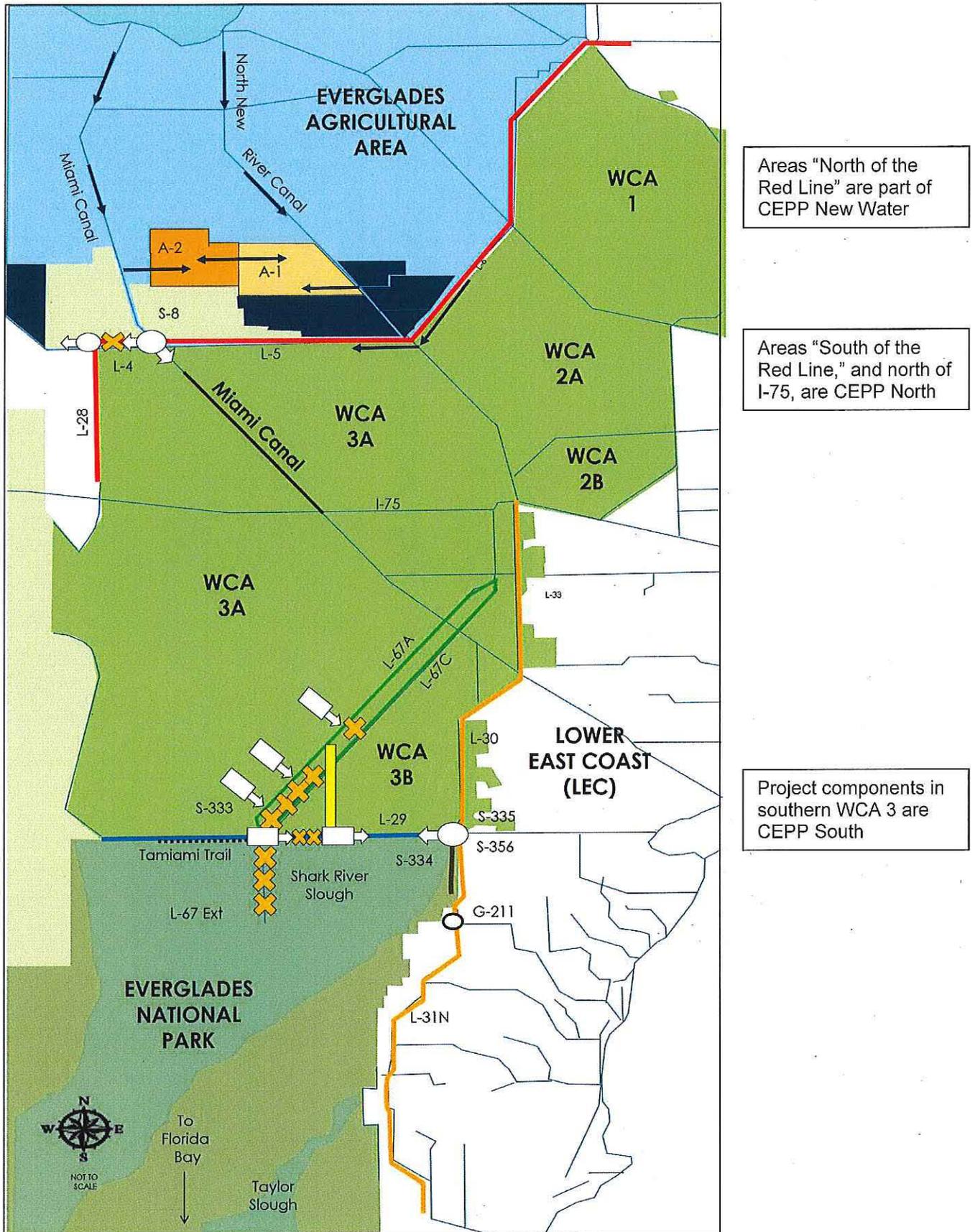


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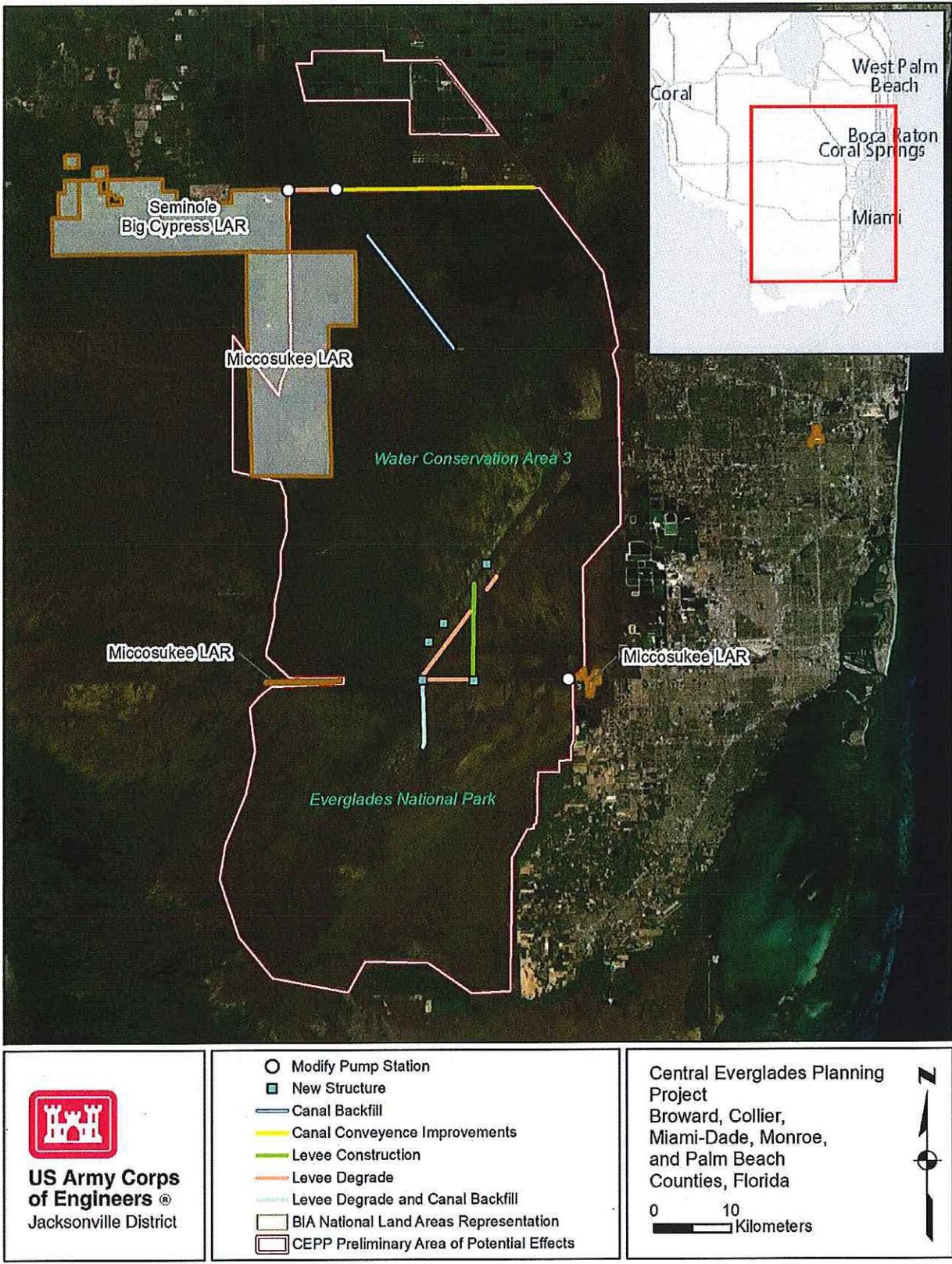


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Planning and Policy Division  
Environmental Branch

MAR 30 2020

Sarah Cody  
Miami-Dade County  
Certified Local Government  
111 Northwest First Street, Mailbox 114,  
Miami, FL 33128

Re: Central Everglades Planning Project Cultural Resources Working Group and CEPP  
South Programmatic Agreement

Dear Ms. Cody:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is planning to implement the Central Everglades Planning Project (CEPP), as authorized by Congress under P.L 144-322 Water Infrastructure Improvements (WIIN) Act of 2016. The purpose of this letter is to formally invite participation in the CEPP Cultural Resources Working Group (Working Group) and invite participation as a Consulting Party in the development of a Programmatic Agreement for CEPP South. The CEPP is a multi-component subset of Comprehensive Everglades Restoration Plan projects intended to improve the quality, timing, duration, and volume of water flowing from Lake Okeechobee to the south, through the Everglades, and out to Florida Bay. The CEPP has been divided into three components, based on geography and scope (Figure 1). CEPP North consists of construction features on the northern end of Water Conservation Area 3. CEPP South consists of construction features in the southern portion of Water Conservation Area 3 and the northern portion of Everglades National Park. CEPP New Water includes new storage and treatment features in the Everglades Agricultural Area as well as the final operations manual. The area of potential effects, based on preliminary modeling) for all of the CEPP extends from the Everglades Agricultural Area into Everglades National Park, including state, federal, private, and Native American lands (Figure 2).

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Sincerely,



Angela E. Dunn  
Chief, Environmental Branch

Enclosure

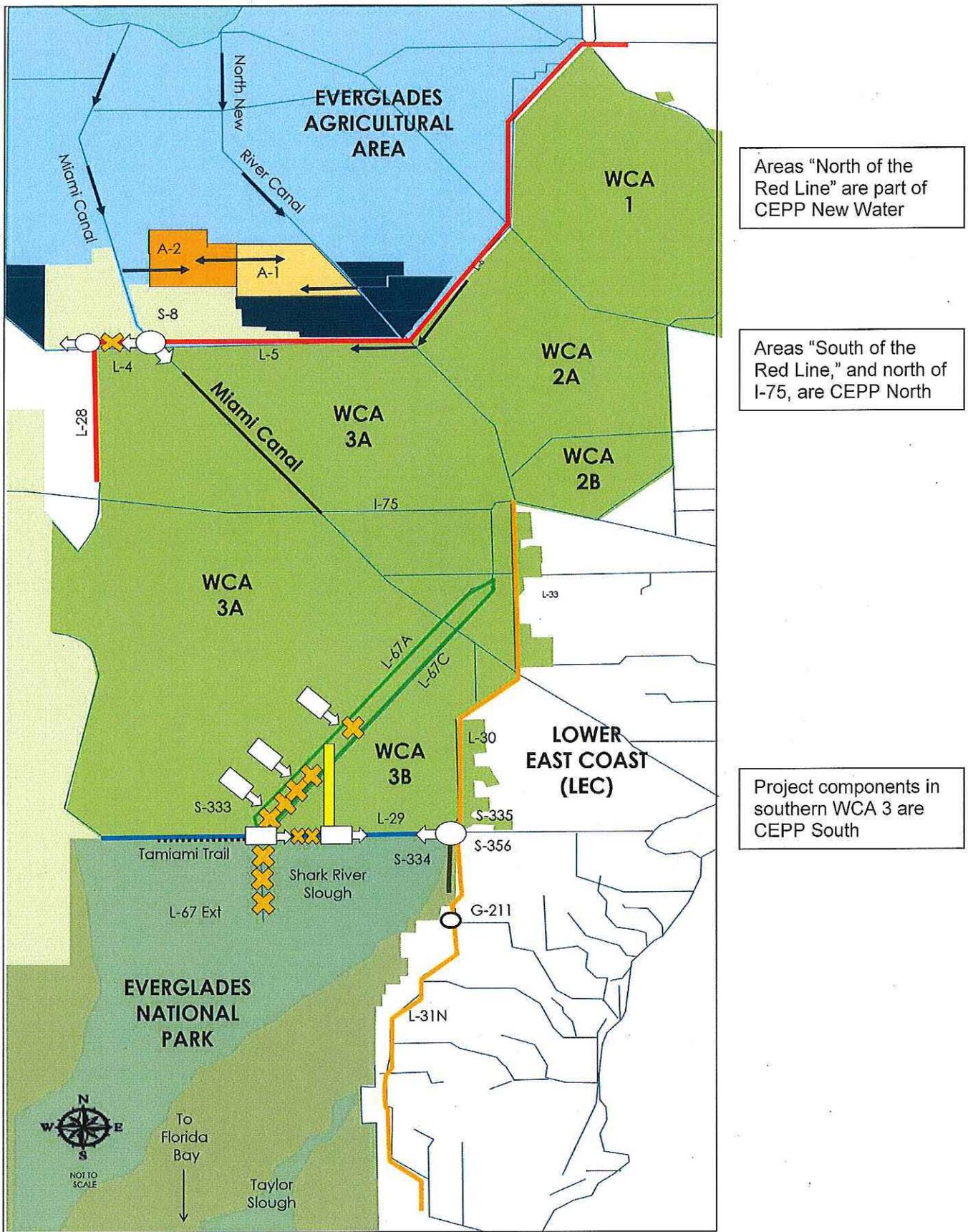


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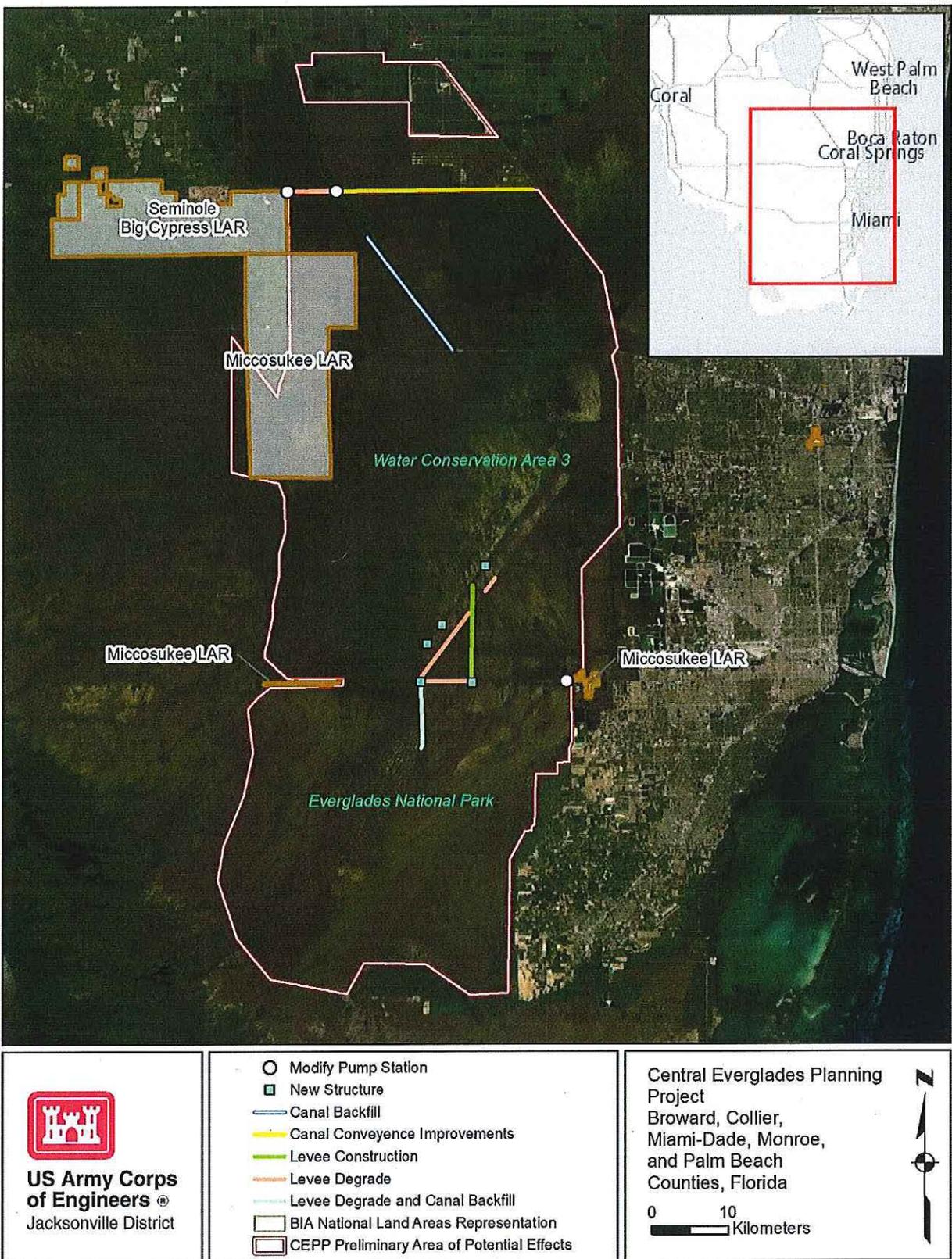


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CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

1 May 2020

Tim Parsons, Ph.D.  
State Historic Preservation Officer  
Florida Division of Historical Resources  
500 South Bronough Street  
Tallahassee, FL 32399-0250

Re: Central Everglades Planning Project South Phase Contract 1, Dade County, Florida

Dear Dr. Parsons:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with Central Everglades Planning Project (CEPP) South Phase, Contract 1 (CEPP South Contract 1). CEPP South Contract 1 consists of features intended to allow flow from Water Conservation Area (WCA) 3A into WCA 3B. The proposed actions include constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between L-67A and L-67C (Figure 1). The proposed actions are located along the boundary of WCA 3A and WCA 3B in Dade County, Florida. The area of potential effects (APE) for this construction includes the construction footprints with a buffer for staging and access. The proposed features are part of the decompartmentalization of the Everglades and the CEPP goals of improve the quality, timing, duration, and volume of water in South Florida.

The L-67A canal and levee was recorded as resource group 8BD5100 by Panamerican Consultants, Inc. (PCI) in a 2012 report titled "Phase I Historical and Archaeological Survey within WCA-3A, Levee 4-5 Spreader Channel, and Levee 5 Spreader Channel Pump Station, Broward and Dade Counties, Florida" (BAR # 20487). The description and map of resource group 8BD5100 in the PCI report and site file includes the portion of the L-67A canal and levee within the APE; however, no site file number was assigned for the portion in Dade County. The Florida Division of Historical Resource, Appendix E of the "Guide to the Resource Group Form, v. 5.0" (2019), states that typically only older canals (19th century), transportation canals, larger regional canals dug as part of the early 20th century reclamation activities, or canals used in industry are considered eligible for inclusion in the National Register of Historic Places (NRHP). The L-67A canal and levee was constructed in 1961-1962 and is not part of a primary canal or part of the historically significant early attempts to drain and control water in the Everglades; therefore, PCI recommended L-67A as ineligible for listing in the NRHP. The Corps has determined, based on the lack of association with a primary canal, the nondescript and typical character, and lack of association with the earlier phases of control system of South Florida, the L-67A levee is not eligible for listing in the NRHP.

The Corps archaeologist reviewed the locations of the proposed water control structures on historic aerial photography. The newly proposed structures are designed to allow water to pass through the L-67A and are aligned to sloughs visible in 1940s aeriels, and not located with potentially buried tree islands (Figure 2).

The spoil piles proposed for removal are associated with the construction of the L-67A levee, and are located across from two of the proposed structures. These spoil piles were created during the dredging of the canal in 1961 and therefore do not contain archaeological materials. Spoil piles were expressly selected that do not correspond with the locations of tree islands on historic aerial photography, but were sited in order to fit with the pattern of sloughs seen on historic aerial photography (see Figure 2). The spoil piles are a byproduct of canal construction, do not correspond with locations of historic tree islands, and do not possess any unique qualities that would make the spoil piles eligible for listing in the NRHP. The Corps removed from consideration of the removal spoil piles in areas identified by a representative of the Miccosukee Tribe of Indians of Florida.

In 2013, New South Associates, Inc. (NSA) completed a cultural resources assessment survey to include the ditch between L-67A and L-67 C that the Corps is currently proposing to backfill, as reported in "Central Everglades Planning Project Cultural Resources Survey of Water Conservation Areas 3A and 3B" (DHR # 20328). This survey documented the ditch as part of the Blue Shanty Canal (8DA12826). The Corps determined this resource was ineligible for listing in the NRHP in 2013, with SHPO concurrence. The locations selected for backfill do not correspond with any tree islands on historic aerial photography (see Figure 2).

NSA also surveyed the L-67C canal in 2013, and recorded the canal in the report as resource group 8BD4994 and 8DA13014. Though these site file numbers have been assigned, there is no entry in the Florida Master Site File. This is likely because this resource was not fifty years old at the time of the report, having been constructed in 1965-1966. This resource was recorded and evaluated in anticipation of the potential lag between survey and the current action. The L-67C is not associated with a primary canal or the early attempts to drain and control water in the Everglades. The levee exhibits a nondescript and typical character and is a late addition to the water control system of South Florida, and does not exhibit qualities indicating it would be eligible for listing in the National Register of Historic Places (NSA 2013: 363). The Corps has determined this resource is not eligible for listing in the NRHP. The locations of proposed degrading to create gaps correspond with historic sloughs (see Figure 2).

CEPP South Contract 1 does not include new volumes of water, but will spread the locations of water transported between WCA 3A and WCA 3B. The design is intended to put water in locations that were historically sloughs. The schedule and total volume of water will not change as a result of CEPP South Contract 1. Currently, water enters WCA 3B from

S-151, a gated structure on the north side of this compartmentalized area, with seepage through the L-67A and L-67C levees. The change to a more distributed water flow from existing conditions is not a potential adverse effect to historic properties and provide beneficial effects to tree islands.

The potential effects for this action include disturbance of the direct construction footprints and the alteration of water flow. The Corps has determined the proposed actions of CEPP South Contract 1 will not adversely affect any historic properties. The canals, levees, ditch, and spoil islands are not cultural resources eligible for listing in the NRHP. The design of the project took the historic locations of tree islands and sloughs into account in order to reduce potential impacts to cultural resources. Pursuant to Section 106 of the Nation Historic Preservation Act (54 U.S.C. § 306108) and respective implementing regulations (36 CFR § 800), the Corps kindly requests comments on this determination within 30 days from the receipt of this letter. Please provide comments or questions to Chris Altes by telephone at 904-232-1694 or by email to [christopher.f.altes@usace.army.mil](mailto:christopher.f.altes@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

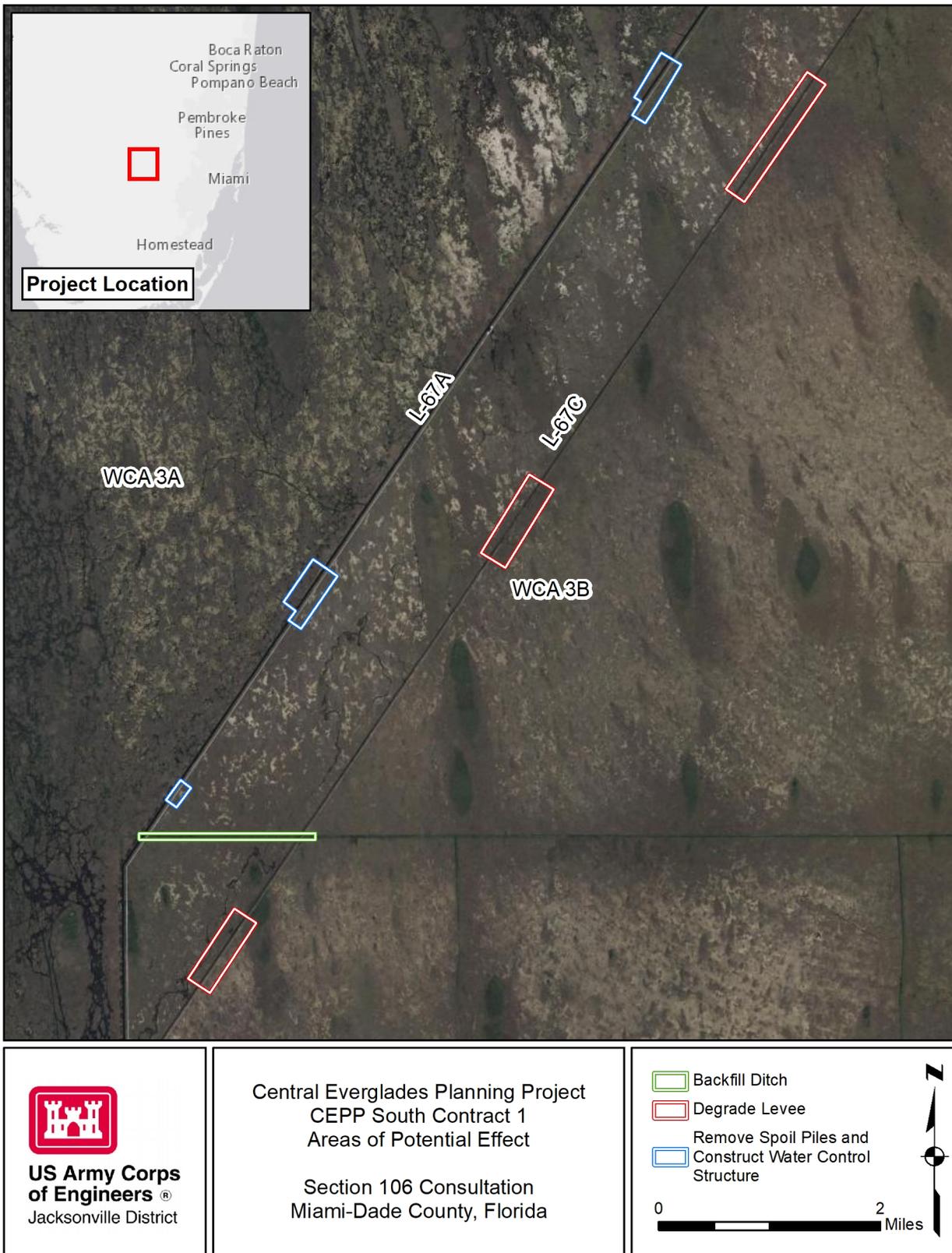


Figure 1. The area of potential effects for the proposed CEPP South Contract 1 Features.



Figure 2. The CEPP South Contract 1 features shown on 1940 aerial photography.



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Environmental Branch

1 May 2020

Kevin Donaldson  
NAGPRA Representative  
Miccosukee Tribe of Indians of Florida  
P.O. Box 440021  
Tamiami Station  
Miami, FL 33144

Re: Central Everglades Planning Project South Phase Contract 1, Dade County, Florida

Dear Mr. Donaldson:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with Central Everglades Planning Project (CEPP) South Phase, Contract 1 (CEPP South Contract 1). CEPP South Contract 1 consists of features intended to allow flow from Water Conservation Area (WCA) 3A into WCA 3B. The proposed actions include constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between L-67A and L-67C (Figure 1). The proposed actions are located along the boundary of WCA 3A and WCA 3B in Dade County, Florida. The area of potential effects (APE) for this construction includes the construction footprints with a buffer for staging and access. The proposed features are part of the decompartmentalization of the Everglades and the CEPP goals of improve the quality, timing, duration, and volume of water in South Florida.

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In 2013, New South Associates, Inc. (NSA) completed a cultural resources assessment survey to include the ditch between L-67A and L-67 C that the Corps is currently proposing to backfill, as reported in "Central Everglades Planning Project Cultural Resources Survey of Water Conservation Areas 3A and 3B" (DHR # 20328). This survey documented the ditch as part of the Blue Shanty Canal (8DA12826). The Corps determined this resource was ineligible for listing in the NRHP in 2013, with SHPO concurrence. The locations selected for backfill do not correspond with any tree islands on historic aerial photography (see Figure 2).

NSA also surveyed the L-67C canal in 2013, and recorded the canal in the report as resource group 8BD4994 and 8DA13014. Though these site file numbers have been assigned, there is no entry in the Florida Master Site File. This is likely because this resource was not fifty years old at the time of the report, having been constructed in 1965-1966. This resource was recorded and evaluated in anticipation of the potential lag between survey and the current action. The L-67C is not associated with a primary canal or the early attempts to drain and control water in the Everglades. The levee exhibits a nondescript and typical character and is a late addition to the water control system of South Florida, and does not exhibit qualities indicating it would be eligible for listing in the National Register of Historic Places (NSA 2013: 363). The Corps has determined this resource is not eligible for listing in the NRHP. The locations of proposed degrading to create gaps correspond with historic sloughs (see Figure 2).

CEPP South Contract 1 does not include new volumes of water, but will spread the locations of water transported between WCA 3A and WCA 3B. The design is intended to put water in locations that were historically sloughs. The schedule and total volume of water will not change as a result of CEPP South Contract 1. Currently, water enters WCA 3B from

S-151, a gated structure on the north side of this compartmentalized area, with seepage through the L-67A and L-67C levees. The change to a more distributed water flow from existing conditions is not a potential adverse effect to historic properties and provide beneficial effects to tree islands.

The potential effects for this action include disturbance of the direct construction footprints and the alteration of water flow. The Corps has determined the proposed actions of CEPP South Contract 1 will not adversely affect any historic properties. The canals, levees, ditch, and spoil islands are not cultural resources eligible for listing in the NRHP. The design of the project took the historic locations of tree islands and sloughs into account in order to reduce potential impacts to cultural resources. Pursuant to Section 106 of the Nation Historic Preservation Act (54 U.S.C. § 306108) and respective implementing regulations (36 CFR § 800), the Corps kindly requests comments on this determination within 30 days from the receipt of this letter. Please provide comments or questions to Chris Altes by telephone at 904-232-1694 or by email to [christopher.f.altes@usace.army.mil](mailto:christopher.f.altes@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

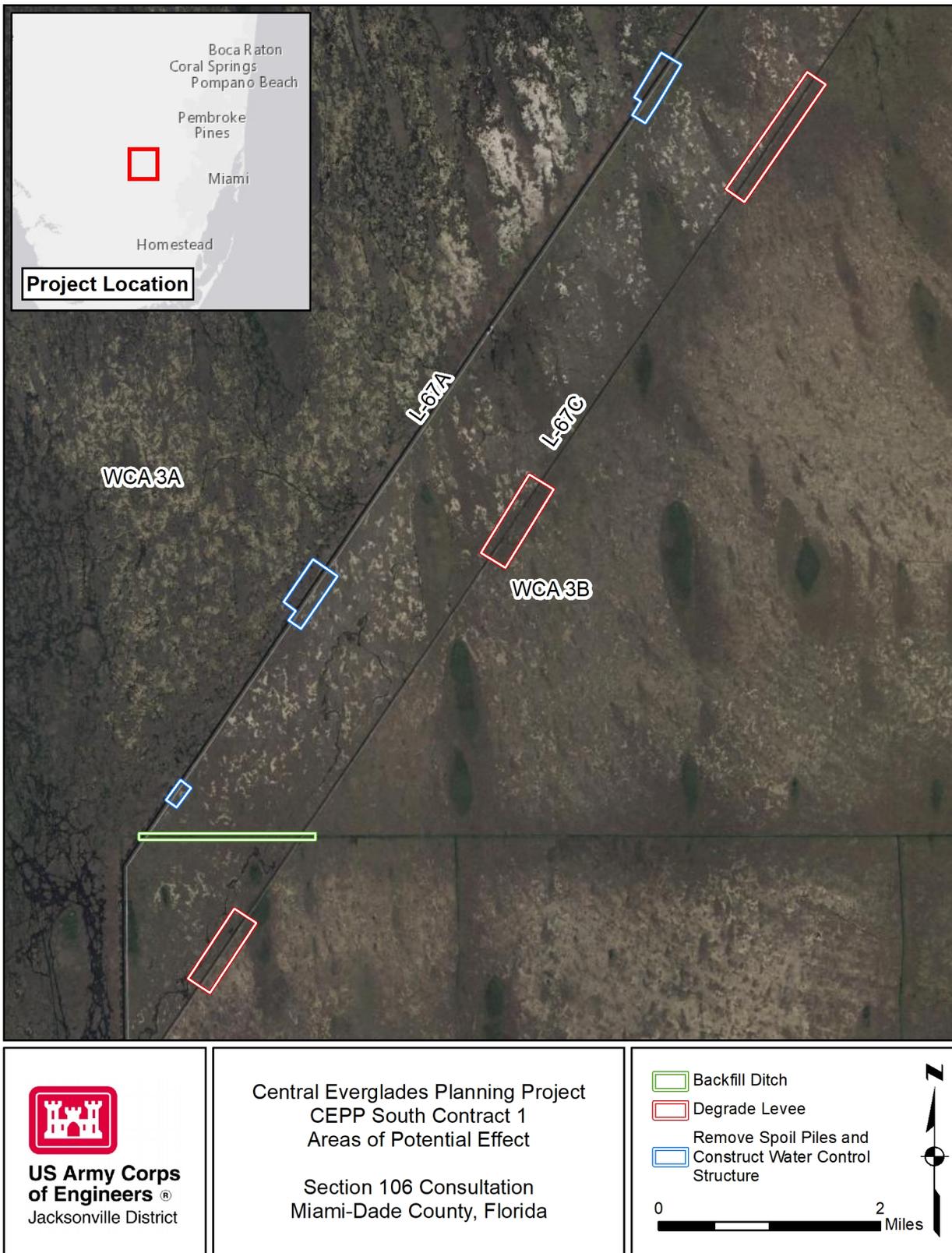


Figure 1. The area of potential effects for the proposed CEPP South Contract 1 Features.



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DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

1 May 2020

Paul Backhouse, Ph.D.  
Tribal Historic Preservation Officer  
Seminole Tribe of Florida  
Ah Tah Thi Ki Museum  
30290 Josie Billie Hwy., PMB 1004  
Clewiston, FL 33440

Re: Central Everglades Planning Project South Phase Contract 1, Dade County, Florida

Dear Dr. Backhouse:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with Central Everglades Planning Project (CEPP) South Phase, Contract 1 (CEPP South Contract 1). CEPP South Contract 1 consists of features intended to allow flow from Water Conservation Area (WCA) 3A into WCA 3B. The proposed actions include constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between L-67A and L-67C (Figure 1). The proposed actions are located along the boundary of WCA 3A and WCA 3B in Dade County, Florida. The area of potential effects (APE) for this construction includes the construction footprints with a buffer for staging and access. The proposed features are part of the decompartmentalization of the Everglades and the CEPP goals of improve the quality, timing, duration, and volume of water in South Florida.

The L-67A canal and levee was recorded as resource group 8BD5100 by Panamerican Consultants, Inc. (PCI) in a 2012 report titled "Phase I Historical and Archaeological Survey within WCA-3A, Levee 4-5 Spreader Channel, and Levee 5 Spreader Channel Pump Station, Broward and Dade Counties, Florida" (BAR # 20487). The description and map of resource group 8BD5100 in the PCI report and site file includes the portion of the L-67A canal and levee within the APE; however, no site file number was assigned for the portion in Dade County. The Florida Division of Historical Resource, Appendix E of the "Guide to the Resource Group Form, v. 5.0" (2019), states that typically only older canals (19th century), transportation canals, larger regional canals dug as part of the early 20th century reclamation activities, or canals used in industry are considered eligible for inclusion in the National Register of Historic Places (NRHP). The L-67A canal and levee was constructed in 1961-1962 and is not part of a primary canal or part of the historically significant early attempts to drain and control water in the Everglades; therefore, PCI recommended L-67A as ineligible for listing in the NRHP. The Corps has determined, based on the lack of association with a primary canal, the nondescript and typical character, and lack of association with the earlier phases of control system of South Florida, the L-67A levee is not eligible for listing in the NRHP.

The Corps archaeologist reviewed the locations of the proposed water control structures on historic aerial photography. The newly proposed structures are designed to allow water to pass through the L-67A and are aligned to sloughs visible in 1940s aerials, and not located with potentially buried tree islands (Figure 2).

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CEPP South Contract 1 does not include new volumes of water, but will spread the locations of water transported between WCA 3A and WCA 3B. The design is intended to put water in locations that were historically sloughs. The schedule and total volume of water will not change as a result of CEPP South Contract 1. Currently, water enters WCA 3B from

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Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

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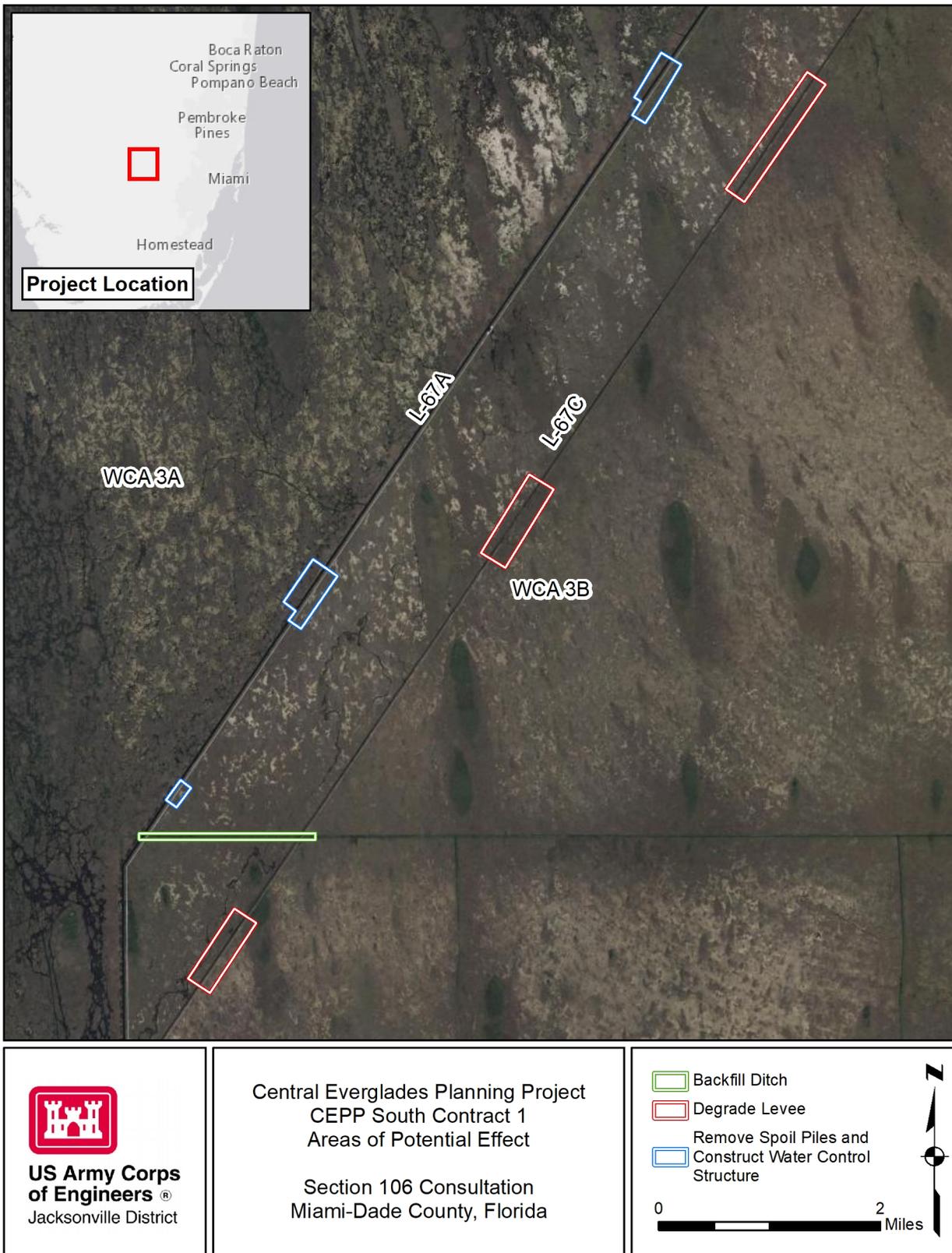


Figure 1. The area of potential effects for the proposed CEPP South Contract 1 Features.



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DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

1 May 2020

David Frank  
Tribal Historic Preservation Officer  
Seminole Nation of Oklahoma  
P.O. Box 1498  
Wewoka, OK 74884

Re: Central Everglades Planning Project South Phase Contract 1, Dade County, Florida

Dear Mr. Frank:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with Central Everglades Planning Project (CEPP) South Phase, Contract 1 (CEPP South Contract 1). CEPP South Contract 1 consists of features intended to allow flow from Water Conservation Area (WCA) 3A into WCA 3B. The proposed actions include constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between L-67A and L-67C (Figure 1). The proposed actions are located along the boundary of WCA 3A and WCA 3B in Dade County, Florida. The area of potential effects (APE) for this construction includes the construction footprints with a buffer for staging and access. The proposed features are part of the decompartmentalization of the Everglades and the CEPP goals of improve the quality, timing, duration, and volume of water in South Florida.

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The Corps archaeologist reviewed the locations of the proposed water control structures on historic aerial photography. The newly proposed structures are designed to allow water to pass through the L-67A and are aligned to sloughs visible in 1940s aeriels, and not located with potentially buried tree islands (Figure 2).

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S-151, a gated structure on the north side of this compartmentalized area, with seepage through the L-67A and L-67C levees. The change to a more distributed water flow from existing conditions is not a potential adverse effect to historic properties and provide beneficial effects to tree islands.

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Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

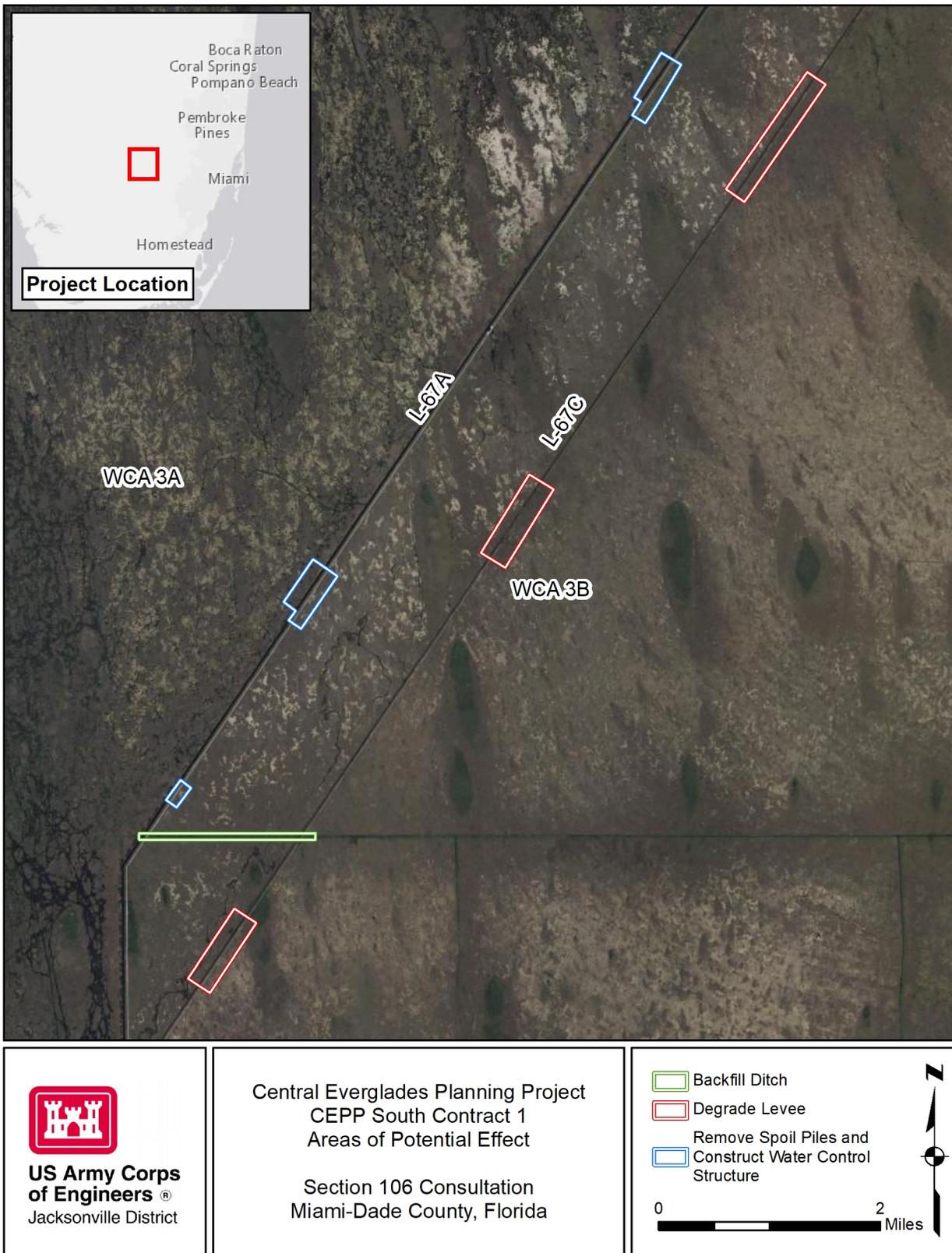


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DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

1 May 2020

Jane Maylen  
Tribal Historic Preservation Officer (acting)  
Thlopthlocco Tribal Town  
P.O. Box 188  
Okemah, OK 74859

Re: Central Everglades Planning Project South Phase Contract 1, Dade County, Florida

Dear Ms. Maylen:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with Central Everglades Planning Project (CEPP) South Phase, Contract 1 (CEPP South Contract 1). CEPP South Contract 1 consists of features intended to allow flow from Water Conservation Area (WCA) 3A into WCA 3B. The proposed actions include constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between L-67A and L-67C (Figure 1). The proposed actions are located along the boundary of WCA 3A and WCA 3B in Dade County, Florida. The area of potential effects (APE) for this construction includes the construction footprints with a buffer for staging and access. The proposed features are part of the decompartmentalization of the Everglades and the CEPP goals of improve the quality, timing, duration, and volume of water in South Florida.

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CEPP South Contract 1 does not include new volumes of water, but will spread the locations of water transported between WCA 3A and WCA 3B. The design is intended to put water in locations that were historically sloughs. The schedule and total volume of water will not change as a result of CEPP South Contract 1. Currently, water enters WCA 3B from

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Sincerely,

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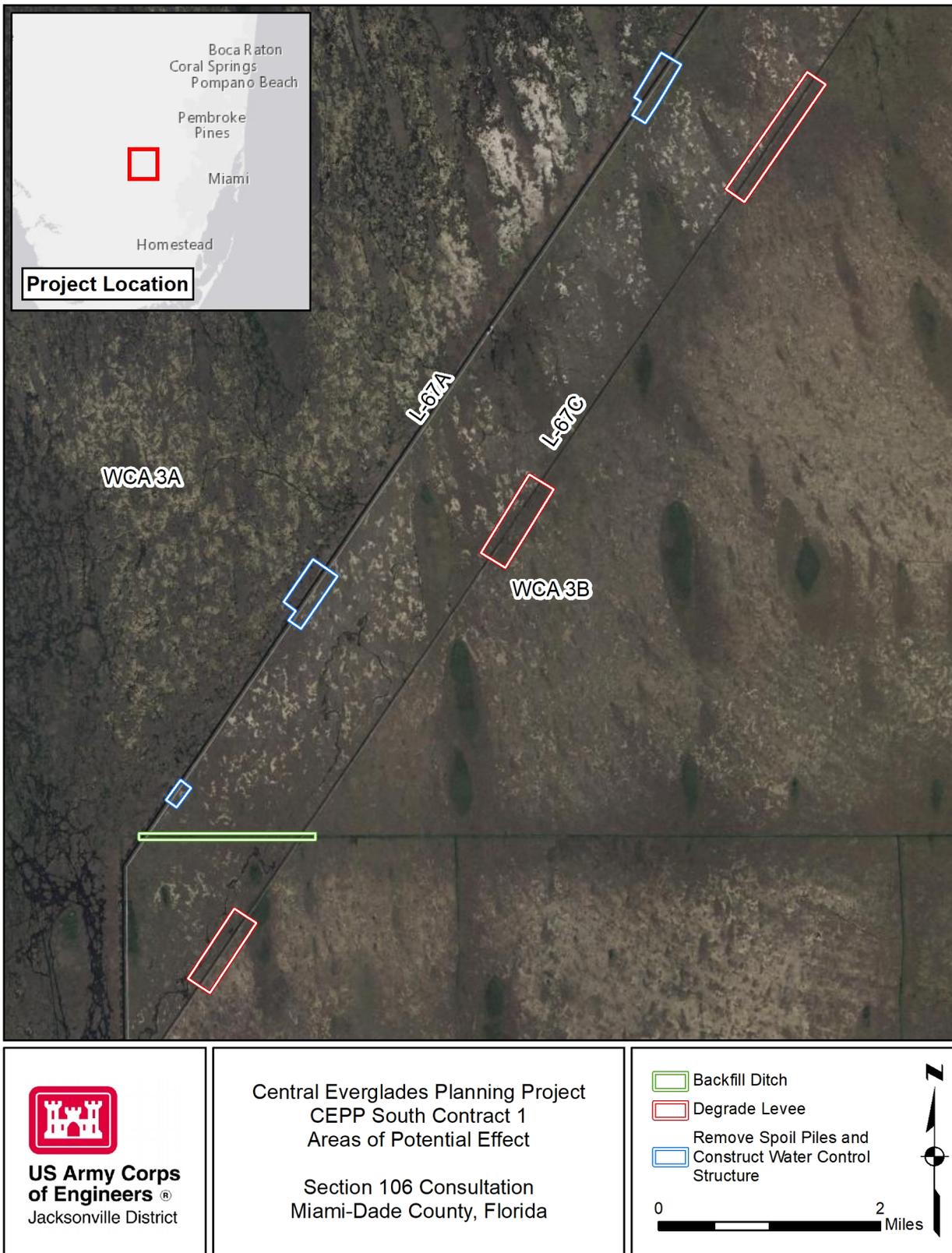


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DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
701 SAN MARCO BOULEVARD  
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division  
Environmental Branch

1 May 2020

Sarah Cody  
Historic Preservation Planner  
Miami-Dade County  
111 Northwest First Street, Mailbox 114  
Miami, FL 33128

Re: Central Everglades Planning Project South Phase Contract 1, Dade County, Florida

Dear Ms. Cody:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with Central Everglades Planning Project (CEPP) South Phase, Contract 1 (CEPP South Contract 1). CEPP South Contract 1 consists of features intended to allow flow from Water Conservation Area (WCA) 3A into WCA 3B. The proposed actions include constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between L-67A and L-67C (Figure 1). The proposed actions are located along the boundary of WCA 3A and WCA 3B in Dade County, Florida. The area of potential effects (APE) for this construction includes the construction footprints with a buffer for staging and access. The proposed features are part of the decompartmentalization of the Everglades and the CEPP goals of improve the quality, timing, duration, and volume of water in South Florida.

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Chief, Environmental Branch

Encl

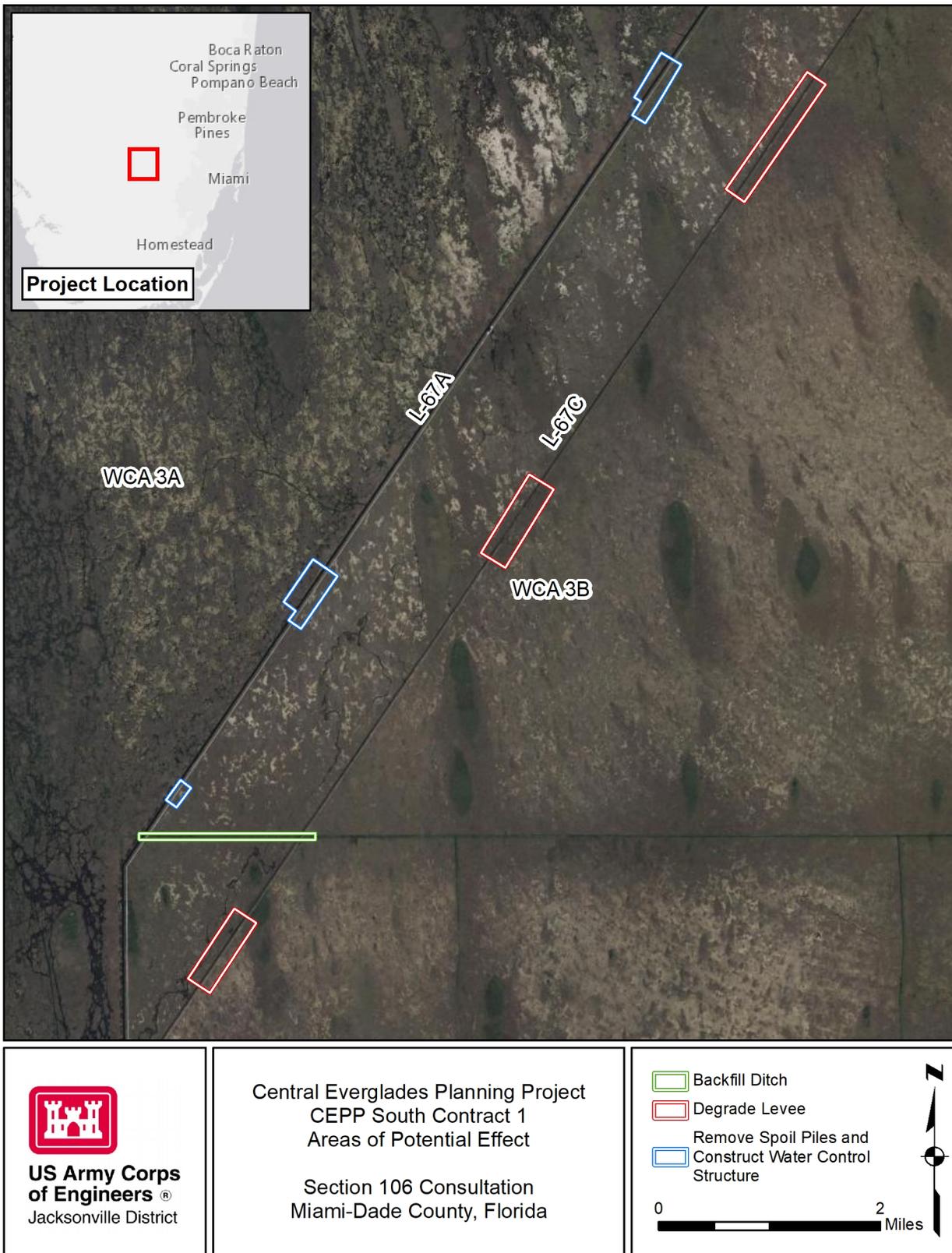


Figure 1. The area of potential effects for the proposed CEPP South Contract 1 Features.



Figure 2. The CEPP South Contract 1 features shown on 1940 aerial photography.



## FLORIDA DEPARTMENT of STATE

**RON DESANTIS**  
Governor

**LAUREL M. LEE**  
Secretary of State

Angela Dunn  
Chief, Environmental Branch  
Corps of Engineers, Jacksonville District  
701 San Marco Boulevard  
Jacksonville, FL 3207-8915

May 28, 2020

RE: DHR Project File No.: 2020-2267, Received by DHR: May 1, 2020  
*Central Everglades Planning Project South Phase Contract 1, Dade County, Florida*

Dear Ms. Dunn:

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

The proposed undertaking includes constructing gated culverts in the L-67A levee, removing spoil piles to grade along the L-67A canal, creating gaps in the L-67C levee, and backfilling a ditch between the L-67A and the L-67C canals. The proposed undertakings will not include new ground disturbance in previously undisturbed areas, nor will the project introduce new volumes of water into Water Conservation Area 3A or 3B. The Corps selection of project areas avoided locations of historic tree islands and sloughs to further reduce the potential effect to historic properties.

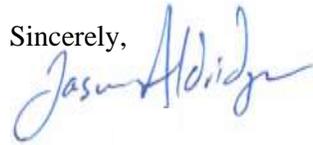
The Corps notes that the Area of Potential Effect (APE) for this undertaking was surveyed in 2013 (Florida Master Site File Manuscript (FMSF) numbers 20487 and 20328). The L-67A canal (FMSF no. BD5100) and the Blue Shanty Canal (FMSF no. DA12826) were previously determined by the Corps and our office to be ineligible for listing in the NRHP. The L-67C canal was recorded during a separate survey in 2013, but was not evaluated for NRHP eligibility at that time. However, the Corps states their determination that the L-67C canal is not NRHP-eligible.

Based on the information provided regarding L-67C, our office concurs with the Corps' determination that the L-67C canal is not NRHP-eligible. We also continue to consider the L-67A canal and the Blue Shanty Canal to be ineligible for listing in the NRHP. Our office concurs that the proposed undertaking will have no adverse effect to historic properties listed, or eligible for listing, in the NRHP.

Ms. Dunn  
DHR Project File No.: 2020-2267  
May 28, 2020  
Page 2

If you have any questions, please contact me by email at [Jason.Aldridge@dos.myflorida.com](mailto:Jason.Aldridge@dos.myflorida.com) or by telephone at 850-245-6344.

Sincerely,

A handwritten signature in blue ink that reads "Jason Aldridge". The signature is written in a cursive style with a large, stylized initial "J".

Jason Aldridge  
Deputy State Historic Preservation Officer  
for Compliance and Review

## **APPENDIX D.3 NATIONAL ENVIRONMENTAL POLICY ACT CORRESPONDENCE**

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### **D.3 National Environmental Policy Act Correspondence**

This appendix contain National Environmental Policy Act Correspondence related to Central Everglades Planning Project South (CEPP South). A brief description of pertinent correspondence is provided below. Copies of the correspondence follow. **Table D.3-1** contains a comment response matrix to address public review of the CEPP South Draft Environmental Assessment (EA).

#### **Notice of Availability (NOA) for the Draft EA**

- May 15, 2020: News Release of NOA Draft EA to general public 30 day comment period
- May 15, 2020: NOA Draft EA to general public 30 day comment period
- May 15, 2020: NOA Draft EA to the State Clearinghouse 30 day comment period
- May 15, 2020: NOA Draft EA to the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Thlopthlocco Tribal Town, Seminole Nation of Oklahoma

#### **Public Review of Draft EA**

- **Table D.3-1** U.S. Army Corps of Engineers' comment response matrix
- Comments received on 2020 CEPP South Draft EA

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**US Army Corps  
of Engineers®**

**U.S. Army Corps of Engineers, Jacksonville District  
News Release**

# **Corps accepts comments on EA to support proposed construction and interim operations of components of CEPP South**

Published May 15, 2020

View of Everglades National Park

The U.S. Army Corps of Engineers Jacksonville District announces a 30-day public comment period for the Draft Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for proposed construction and interim operations of features of the Central Everglades Planning Project (CEPP) South. Comments are due June 15, 2020.

Review the Draft Central Everglades Planning Project South Draft Environmental Assessment (EA) and Proposed FONSI at [www.saj.usace.army.mil/CEPPSouth](http://www.saj.usace.army.mil/CEPPSouth).

**Please submit comments via email by June 15, 2020 to [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil)** (recommended subject “CEPP South Draft EA Comments”). Please call 904-232-1368 if additional assistance is needed.

Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and our partners at the South Florida Water Management District.

The Corps plans to advertise the first construction contract for CEPP South in July, with the contract award expected in September 2020.

The Draft CEPP South EA and Proposed FONSI address the proposed construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

Components proposed for the first construction contract for CEPP South include: the new L-67A gated culverts (S-631, S-632, S-633); an interim 3,000 foot gap on the L-67C levee; and spoil pile removal along the northwestern side of the L-67A canal.

National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014, with the [Final Project Implementation Report and Environmental Impact Statement \(PIR/EIS\) for the Central Everglades Planning Project \(CEPP\)](#). The Corps is not proposing changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS.

This Draft EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AAMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now proposed to be pursued as part of CEPP South. These AAMP components include: backfill of the east-west agricultural ditch in Water Conservation Area (WCA) 3B; installation of temporary pumps adjacent to the L-29 canal; and active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP project features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years. Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Construction Contract 1

The Central Everglades Planning Project South is part of the Comprehensive Everglades Restoration Plan (CERP), and will construct infrastructure for operations to improve the quantity, quality, timing, and distribution of water flows to the Northern Estuaries, Central Everglades (Water Conservation Area 3 and Everglades National Park), and Florida Bay to aid in restoring pre-drainage vegetative communities and habitat for fish and wildlife.

For more on the Central Everglades Planning Project South, visit:

[www.saj.usace.army.mil/CEPPSouth](http://www.saj.usace.army.mil/CEPPSouth).

The Central Everglades Planning Project (CEPP) was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217.

For more information on the Central Everglades Planning Project (CEPP), including project documents, visit: [www.saj.usace.army.mil/CEPP/](http://www.saj.usace.army.mil/CEPP/).

**Contact**

Erica Skolte

561-801-5734 (cell)

Erica.A.Skolte@usace.army.mil

Release no. 20-042

CEPP

CEPP South

CERP

everglades

comprehensive everglades restoration plan

Central Everglades Planning Project

Central Everglades Planning Project South

USACE

Jacksonville District

U.S. Army Corps of Engineers



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8915**

Planning and Policy Division  
Environmental Branch

15 May 2020

To Whom It May Concern:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

Components included in the first construction contract for CEPP South include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot levee gap on the L-67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014 with the Final Project Implementation Report and Environmental Impact Statement (PIR/EIS). Changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS are not being proposed as part of this EA. This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for "new water" inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years

Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The EA and Proposed FONSI are available for your review on the Corps Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

(On that page, click on the "+" next to "Multiple Counties". Scroll down to the project name.)

Due to current circumstances, the Corps is requesting that any comments you may have must be submitted in writing to [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil) within 30 days of the date of this letter. Correspondence may also be sent to the letterhead address above, however due to limited staff availability at the District office, electronic submittal of comments via email is preferred. Questions concerning CEPP South can also be submitted to Mrs. Melissa Nasuti by telephone at 904-232-1368.

Sincerely,



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Angela E. Dunn  
Chief, Environmental Branch



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8915**

Planning and Policy Division  
Environmental Branch

15 May 2020

Chris Stahl, Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
2600 Blair Stone Road, M.S. 47  
Tallahassee, FL 32399-2400

Mr. Stahl:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in September 2020. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

Components included in the first construction contract for CEPP South include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot levee gap on the L-67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014 with the Final Project Implementation Report and Environmental Impact Statement (PIR/EIS). Changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS are not being proposed as part of this EA. This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014

CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years. Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The Corps is requesting a consistency determination pursuant to the Coastal Zone Management Act and the Florida Coastal Management Program based on the information contained in the draft EA. The EA and Proposed FONSI are available for your review on the Corps Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branh/Environmental-Documents/>

(On that page, click on the “+” next to “Multiple Counties”. Scroll down to the project name.)

Due to current circumstances, the Corps is requesting a consistency determination submitted in writing to [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil) within 30 days of the date of this letter. Correspondence may also be sent to the letterhead address above, however due to limited staff availability at the District office, electronic submittal of comments via email is preferred. We understand the final concurrence from your agency will be determined during the review performed as part of the state’s environmental permitting process that includes water quality certification under Section 401 of the Clean Water Act. Questions concerning CEPP South can also be submitted to Mrs. Melissa Nasuti by telephone at 904-232-1368.

Sincerely,

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Angela E. Dunn  
Chief, Environmental Branch



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

The Honorable Billy Cypress  
Chairman, Miccosukee Tribe of Indians of Florida  
Post Office Box 440021, Tamiami Station  
Miami, Florida 33144

Dear Chairman Cypress:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). Features of the CEPP function to deliver water from Water Conservation Area 3A (WCA 3A) through WCA 3B and into Everglades National Park (ENP) consistent with the restoration goals of the Comprehensive Everglades Restoration Plan. The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

Components included in the first construction contract for CEPP South include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot levee gap on the L-67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014 with the Final Project Implementation Report and Environmental Impact Statement (PIR/EIS). Changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS are not being proposed as part of this EA.

This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B. The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years. Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The EA and Proposed FONSI are available for your review on the Corps Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

(On that page, click on the “+” next to “Multiple Counties”. Scroll down to the project name.)

We intend to pursue an open and public process and recognize the Federal obligations that we have to our tribal partners. The Corps is currently coordinating this action with all known appropriate tribal staff members and will continue to consult with your staff through implementation of this project. To improve future consultation efforts, please provide us with names and contact information for those that we have inadvertently left off this correspondence. At this time, we respectfully request for comments on the EA and Proposed FONSI be submitted in writing within 30 days of the date of this letter. Please forward all comments to the Project NEPA Coordinator, Ms. Melissa Nasuti, by email at [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil), or to the address listed in the letterhead above.

If you have any questions regarding the information in this letter, feel free to contact me, or you may contact Ms. Cindy Thomas, Tribal Liaison, at 918-581-4200 or by email at [Cynthia.G.Thomas@usace.army.mil](mailto:Cynthia.G.Thomas@usace.army.mil)

Sincerely,

KELLY.ANDREW.  
DONALD.JR.102  
5510875

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Andrew D. Kelly, Jr.  
Colonel, U.S. Army  
District Commander

cc:

Gene Duncan, Water Resources Director, Miccosukee Tribe of Indians of Florida,  
[GeneD@miccosukeetribe.com](mailto:GeneD@miccosukeetribe.com)

Kevin Donaldson, Section 106 Representative and Real Estate Services, Miccosukee  
Tribe of Indians of Florida, [KevinD@miccosukeetribe.com](mailto:KevinD@miccosukeetribe.com)

Craig Van der Heiden, Fish and Wildlife Director, Miccosukee Tribe of Indians of  
Florida, [CraigV@miccosukeetribe.com](mailto:CraigV@miccosukeetribe.com)



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

The Honorable Marcellus Osceola, Jr.  
Chairman, Seminole Tribe of Florida  
6300 Stirling Road  
Hollywood, Florida 33024

Dear Chairman Osceola:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). Features of the CEPP function to deliver water from Water Conservation Area 3A (WCA 3A) through WCA 3B and into Everglades National Park (ENP) consistent with the restoration goals of the Comprehensive Everglades Restoration Plan. The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

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This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years. Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The EA and Proposed FONSI are available for your review on the Corps Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branh/Environmental-Documents/>

(On that page, click on the “+” next to “Multiple Counties”. Scroll down to the project name.)

We intend to pursue an open and public process and recognize the Federal obligations that we have to our tribal partners. The Corps is currently coordinating this action with all known appropriate tribal staff members and will continue to consult with your staff through implementation of this project. To improve future consultation efforts, please provide us with names and contact information for those that we have inadvertently left off this correspondence. At this time, we respectfully request comments on the EA and Proposed FONSI be submitted in writing within 30 days of the date of this letter. Please forward all comments to the Project NEPA Coordinator, Ms. Melissa Nasuti, by email at [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil), or to the address listed in the letterhead above.

If you have any questions regarding the information in this letter, feel free to contact me, or you may contact Ms. Cindy Thomas, Tribal Liaison, at 918-581-4200 or by email at [Cynthia.G.Thomas@usace.army.mil](mailto:Cynthia.G.Thomas@usace.army.mil).

Sincerely,

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Andrew D. Kelly, Jr.  
Colonel, U.S. Army  
District Commander

cc:

Mr. Mitchell Cypress, Vice Chairman and TW Board President, Seminole Tribe of Florida, Mitchell.Cypress@semtribe.com  
Mr. David Cypress, Big Cypress Councilman, Seminole Tribe of Florida, DavidCypress@semtribe.com  
Mr. Larry Howard, Brighton Councilman, Seminole Tribe of Florida, LarryHoward@semtribe.com  
Mr. Chris Osceola, Hollywood Councilman, Seminole Tribe of Florida, ChristopherOsceola@semtribe.com  
Mr. Jim Shore, Esquire, General Counsel, Seminole Tribe of Florida, JimShore@semtribe.com  
Mr. Andrew J. Bowers, Executive Director of Operations, Seminole Tribe of Florida, AndrewJBowers@semtribe.com  
Dr. Paul Backhouse, Senior Director, HERO and Tribal Historic Preservation Officer, Seminole Tribe of Florida, PaulBackhouse@semtribe.com  
Mr. Kevin Cunniff, Director, ERMD, Seminole Tribe of Florida, KevinCunniff@semtribe.com  
Mr. Stacy Myers, Senior Scientist/Liaison, HERO, Seminole Tribe of Florida, StacyMyers@semtribe.com  
Ms. Anne Mullins, Director, Tribal Historic Preservation Office, AnneMullins@semtribe.com  
Mr. Bernard Howard, Project Manager, HERO, Seminole Tribe of Florida, BernardHoward@semtribe.com  
Mr. Stephen A. Walker, Esquire, Lewis, Longman and Walker, swalker@llw-law.com  
Ms. Michelle Diffenderfer, Esquire, Lewis, Longman and Walker, mdiffenderfer@llw-law.com  
Ms. Patricia Power, Bose Public Affairs Group, ppower@bosepublicaffairs.com



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

The Honorable Ryan Morrow  
Town King, Thlopthlocco Tribal Town  
Post Office Box 188  
Okemah, Oklahoma 74859

Dear Town King Morrow:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). Features of the CEPP function to deliver water from Water Conservation Area 3A (WCA 3A) through WCA 3B and into Everglades National Park (ENP) consistent with the restoration goals of the Comprehensive Everglades Restoration Plan. The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

Components included in the first construction contract for CEPP South include: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot levee gap on the L-67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. National Environmental Policy Act documentation for the construction and operation of CEPP South features was completed in 2014 with the Final Project Implementation Report and Environmental Impact Statement (PIR/EIS). Changes to the general locations or design capacities of the CEPP South features identified in the 2014 CEPP Final PIR/EIS are not being proposed as part of this EA.

This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

The DPOM contained in the 2014 CEPP Final PIR/EIS detailed an initial draft operational plan for the full complement of CEPP features while accounting for “new water” inflows to WCA 2 and WCA 3A. The 2014 CEPP DPOM did not prescribe interim operations for CEPP features as they are incrementally constructed over several years.

Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

The EA and Proposed FONSI are available for your review on the Corps Environmental planning website:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

(On that page, click on the “+” next to “Multiple Counties”. Scroll down to the project name.)

We intend to pursue an open and public process and recognize the Federal obligations that we have to our tribal partners. The Corps is currently coordinating this action with all known appropriate tribal staff members and will continue to consult with your staff through implementation of this project. To improve future consultation efforts, please provide us with names and contact information for those that we have inadvertently left off this correspondence. At this time, we respectfully request for comments on the EA and Proposed FONSI be submitted in writing within 30 days of the date of this letter. Please forward all comments to the Project NEPA Coordinator, Ms. Melissa Nasuti, by email at [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil), or to the address listed in the letterhead above.

If you have any questions regarding the information in this letter, feel free to contact me, or you may contact Ms. Cindy Thomas, Tribal Liaison, at 918-581-4200 or by email at [Cynthia.G.Thomas@usace.army.mil](mailto:Cynthia.G.Thomas@usace.army.mil).

Sincerely,

KELLY.ANDREW.D  
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Andrew D. Kelly, Jr.  
Colonel, U.S. Army  
District Commander

cc:

Mr. Gaylen Cloud, Thlopthlocco Tribal Town, Tribal Historic Preservation Officer,  
[thpo@tttown.org](mailto:thpo@tttown.org)



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

The Honorable Greg Chilcoat  
Principal Chief, Seminole Nation of Oklahoma  
Post Office Box 1498  
Wewoka, Oklahoma 74884

Dear Principal Chief Chilcoat:

Pursuant to the National Environmental Policy Act (NEPA) and the U.S. Army Corps of Engineers (Corps) Regulation 33 CFR 230.11, this letter constitutes the Notice of Availability of the Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for construction and interim operations of features of the Central Everglades Planning Project (CEPP). Features of the CEPP function to deliver water from Water Conservation Area 3A (WCA 3A) through WCA 3B and into Everglades National Park (ENP) consistent with the restoration goals of the Comprehensive Everglades Restoration Plan. The CEPP was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322, and amended by Section 1308(a) of the WRDA of 2018, Public Law 115-217. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District. The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively. The CEPP South EA and Proposed FONSI address the construction and interim operations (as defined in the 2020 CEPP Draft Project Operation Manual (DPOM)) of features associated with CEPP South Contract 1 in Broward and Miami-Dade counties, Florida.

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This EA further evaluates components previously identified in the 2014 CEPP Adaptive Management and Monitoring Plan (AMMP) that were not explicitly described in the 2014 CEPP Final PIR/EIS that are now being pursued as part of CEPP South. AMMP components include: (1) backfill of the east-west agricultural ditch in WCA 3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA 3B.

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Modifications and/or revisions to the 2014 CEPP DPOM were expected to occur at periodic intervals during the detailed design phase, construction phase, and operations, testing, and monitoring phase of the project. This EA also further evaluates potential effects associated with proposed revisions to the 2014 CEPP DPOM to define interim operations of features associated with CEPP South Contract 1.

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Sincerely,

KELLY.ANDRE  
W.DONALD.JR.  
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Andrew D. Kelly, Jr.  
Colonel, U.S. Army  
District Commander

cc:

David Frank, Seminole Nation of Oklahoma, Tribal Historic Preservation Officer,  
[Franks.D@sno-nsn.gov](mailto:Franks.D@sno-nsn.gov)

**Table D.3-1. Comments received in response to the draft CEPP South Environmental Assessment provided for public review.**

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
Florida Fish and Wildlife Conservation Commission	June 5, 2020	1	<p>FWC staff reviewed the CEPP South Interim Operations FONSI and supports the selection of alternative ALTB4 as the preferred alternative. Staff recently provided detailed comments on the project components and operations being reviewed under the Florida Department of Environmental Protection construction and operations authorization request Zone Management Act/Florida's Coastal Management Program and appreciate the. No additional comments are necessary at this time, and the previously issued comments are enclosed for your convenience. FWC staff finds that the project is consistent with FWC's authorities under the Coastal Zone Management Act/Florida's Coastal Management Program and appreciate the opportunity to review this project. If you have further questions regarding the content of this letter, please contact <a href="mailto:ConservationPlanningServices@MyFWC.com">ConservationPlanningServices@MyFWC.com</a>.</p>	Thank you for your comments. See response to specific comments below.
Florida Fish and Wildlife Conservation Commission	May 20, 2020	2	<p>The application, and associated 2020 Central Everglades Planning Project (CEPP) South Biological Assessment acknowledges that USACE, or their selected contractor, will conduct preconstruction wildlife surveys and coordinate with the U.S. Fish and Wildlife Service (USFWS) on federally listed species. In addition to the federally listed species identified, staff review found that the project site is near, within, or adjacent to:</p> <ul style="list-style-type: none"> <li>• Potential habitat for state-listed species: Tricolored heron (<i>Egretta tricolor</i>, ST), Little blue heron (<i>Egretta caerulea</i>, ST), Everglades mink (<i>Neovison vison evergladensis</i>, ST)</li> <li>• Potential habitat for the Florida black bear (<i>Ursus americanus floridanus</i>) – South Bear Management Unit</li> </ul>	The Corps acknowledges the potential presence of federally listed and state listed species within the project area. Construction conservation measures have been incorporated into the plans and specifications as appropriate for CEPP South Contract 1. The contractor would be required to keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. The contractor would be required to inform the construction team of the potential presence of threatened and endangered species in the work area. The contractor will be required to submit an environmental protection plan. Furthermore the Corps will provide training materials with respect to federally listed and state listed species to the contractor prior to construction on measures that must be implemented to avoid and minimize interactions with wildlife. The Corps will coordinate with the USFWS and the FWC as applicable.
Florida Fish and Wildlife Conservation Commission	May 20, 2020	3	The project area may contain suitable habitat for federally listed species. We recommend the applicant continue to coordinate with the USFWS for information regarding potential impacts to these species. The USFWS South Florida Ecological Services Office can be contacted at (772) 562-3909 to discuss any necessary federal requirements.	See response to FWC comment 2. Construction conservation measures have been incorporated into the plans and specifications as appropriate. These include measures for federally listed and state listed species. The Corps will coordinate with the USFWS as applicable.
Florida Fish and Wildlife Conservation Commission	May 20, 2020	4	<p>FWC staff appreciate the conservation measures that the applicant has incorporated into the project and the ongoing coordination with USFWS and FWC. The Standard Manatee Construction Conditions for In-water Work were updated in 2011 (<a href="https://myfwc.com/media/7246/manatee_stdcondin_waterwork.pdf">https://myfwc.com/media/7246/manatee_stdcondin_waterwork.pdf</a>). The application states that the applicant has agreed to follow the Standard Manatee Construction Conditions for all in-water work, and FWC staff suggest that these be included in the permit.</p> <p>If the Standard Manatee Construction Conditions are made conditions to the permit, this will satisfy the requirements of 379.2431 (2) and 373.414(1)(a)2 Florida Statutes:</p> <ul style="list-style-type: none"> <li>• The Standard Manatee Construction Conditions for In-water Work (2011) shall be followed for all in-water activity.</li> </ul>	See response to FWC comment 2. Construction conservation measures have been incorporated into the plans and specifications as appropriate. These include the standard manatee construction conditions for in water work as mentioned in the provided comment.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
Florida Fish and Wildlife Conservation Commission	May 20, 2020	5	<p>The project site is in the presumed range of the Everglades mink. Everglades mink rely on multiple wetland habitats, do not avoid human activity, and frequently make use of man-made structures such as canals and levees nearby wetland habitats. FWC has Species Conservation Measures and Permitting Guidelines for the Everglades Mink, which can be accessed at the following web address: <a href="https://myfwc.com/media/11562/final-everglades-mink-species-guidelines-2016.pdf">https://myfwc.com/media/11562/final-everglades-mink-species-guidelines-2016.pdf</a>. The population size is unknown for the Everglades mink and has been inferred from limited data. If an Everglades mink is observed onsite after construction begins, FWC staff recommends that work activities cease, and the mink be allowed to leave on its own accord. It would also contribute to FWC's research efforts if any sightings could be reported to the staff member at the close of this letter, or online at <a href="https://public.myfwc.com/hsc/mink/Default.aspx">https://public.myfwc.com/hsc/mink/Default.aspx</a>, preferably with a photograph and GPS coordinates.</p>	See response to FWC comment 2. The Corps will coordinate with the FWC, as appropriate. The contractor will be required to submit an environmental protection plan. Furthermore the Corps will provide training materials with respect to federally listed and state listed species to the contractor prior to construction on measures that must be implemented to avoid and minimize interactions with wildlife. The Corps will coordinate with the USFWS and FWC as applicable and suggest that information on the Everglades mink be included within the training materials.
Florida Fish and Wildlife Conservation Commission	May 20, 2020	6	<p>It is possible to encounter Florida black bears in this area, which is within the South Bear Management Unit identified in the 2019 Bear Management Plan. While black bears tend to shy away from people, they are adaptable and will take advantage of human-provided food sources. Once bears become accustomed to finding food around people, their natural wariness is reduced to the point that there can be an increased risk to public safety or private property.</p> <p>During construction, construction sites should be kept clean, with refuse that might attract bears kept separate from construction debris and stored securely in bear-resistant containers or removed daily from the construction site before dark. There are guidelines for how construction personnel should respond to bears in the area, such as</p> <ul style="list-style-type: none"> <li>• What to do if they encounter a bear, whether from a distance or at close range, <a href="https://myfwc.com/wildlifehabitats/wildlife/bear/living/encounter/">https://myfwc.com/wildlifehabitats/wildlife/bear/living/encounter/</a></li> <li>• When and how to contact the FWC regarding a bear issue. <a href="https://myfwc.com/wildlifehabitats/wildlife/bear/nuisance-contact/">https://myfwc.com/wildlifehabitats/wildlife/bear/nuisance-contact/</a></li> </ul> <p>FWC staff is available to assist with planning to incorporate the above features. Additional information about Florida black bears can be found on our website at <a href="http://www.myfwc.com/wildlifehabitats/managed/bear">http://www.myfwc.com/wildlifehabitats/managed/bear</a>.</p>	See response to FWC comment 2. The Corps will coordinate with the FWC, as appropriate. The contractor will be required to submit an environmental protection plan. Furthermore the Corps will provide training materials with respect to federally listed and state listed species to the Contractor prior to construction on measures that must be implemented to avoid and minimize interactions with wildlife. The Corps will coordinate with the USFWS and FWC as applicable and suggest that information on the Florida black bear be included within the training materials.
Florida Fish and Wildlife Conservation Commission	May 20, 2020	7	<p>The Early Detection &amp; Distribution Mapping System (EDDMapS), and FWC databases contain records of Burmese pythons (<i>Python bivittatus</i>) in the project area. Should construction workers encounter any Burmese pythons or other non-native wildlife listed as Conditional or Prohibited species (<a href="http://www.myfwc.com/wildlifehabitats/nonnatives/regulations/">http://www.myfwc.com/wildlifehabitats/nonnatives/regulations/</a>) such as Nile monitors (<i>Varanus niloticus</i>), or other invasive exotic reptiles such as Argentine black and white tegu (<i>Tupinambis merianae</i>), during construction-related activities, they are requested to report these sightings, whether dead or alive.</p> <p>FWC staff recommends photos and GPS coordinates be collected and reported to <a href="http://www.IveGot1.org">http://www.IveGot1.org</a>. If USACE or contracted workers require assistance capturing or removing priority non-native wildlife, they should call FWC's Exotic Species Hotline at 1-888 IVE GOT1 (888-483-4681).</p>	See response to FWC comment 2. The Corps will provide training materials with respect to federally listed and state listed species to the contractor prior to construction on measures that must be implemented to avoid and minimize interactions with wildlife. The Corps will coordinate with the USFWS and FWC as applicable and suggest that information on reporting of non-native wildlife be included within the training materials.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
Florida Fish and Wildlife Conservation Commission	May 20, 2020	8	<p>FWC staff recommends that wildlife surveys be conducted prior to any site development activities. We recommend that wildlife surveys follow survey protocols established by the U.S. Fish and Wildlife Service (USFWS) and the FWC and that surveys should be conducted by qualified individuals with recent documented experience.</p> <p>Basic guidance for conducting wildlife surveys may be found in the Florida Wildlife Conservation Guide (<a href="https://myfwc.com/conservation/value/fwcg/">https://myfwc.com/conservation/value/fwcg/</a>).</p>	See response to FWC comment 2. The Corps acknowledges the potential present of federally listed and state listed species within the project area. Construction conservation measures have been incorporated into the plans and specifications as appropriate for CEPP South Contract 1. The contractor will be required to submit an environmental protection plan. Furthermore the Corps will provide training materials with respect to federally listed and state listed species to the contractor prior to construction on measures that must be implemented to avoid and minimize interactions with wildlife. The Corps will coordinate with the USFWS and FWC as applicable.
Florida Fish and Wildlife Conservation Commission	May 20, 2020	9	<p>Construction of the S-631, S-632, and S-633 culverts, spoil mound removal, levee degrade, and backfilling the East-West Agriculture ditch are all located within the Everglades and Francis S. Taylor Wildlife Management Area (EWMA). The EWMA provides access to a variety of nature-based recreational activities, including hunting, boating, and fishing. FWC staff request that construction plans and activities accommodate for recreational uses of the levees, canals, boat ramps, and adjacent wetlands as much as practicable. Additionally, the identified construction haul roads coincide with multiple public access locations for the EWMA and FWC staff request that the levees identified as construction haul roads remain open to recreational access and contracted python hunters as much as practicable. FWC staff are available to work directly with USACE and the contractor to identify accommodations that help maintain the established recreational access and access for contracted python hunters.</p>	Public access will be limited during construction. Access to the L-67A canal will be limited. During construction no access will be available to the L-67C canal. The public will not have use of levees during construction. There will be no public access on the L-67A and L-67C levees. Public access will return upon construction completion. The Corps will work with State (and other local agencies) to maintain access for official business access to these areas during construction to the extent practicable. Coordination will need to occur with staff from the Corps' Construction Division.
Florida Fish and Wildlife Conservation Commission (FWC)	May 20, 2020	10	<p>The permit application includes adaptive management activities to enhance flow by reconnecting historic sloughs in WCA 3B and installing temporary pumps. Active vegetation management in WCA 3B will be accomplished using herbicides and is expected to redirect more flow toward the natural orientation (south) of the landscape and increase sheet flow. Temporary pumps will be installed in the L-29 canal, with a total discharge capacity of 200 cfs, as an interim measure to further improve the southerly sheet flow towards the L-29 canal. FWC staff requests that USACE and the South Florida Water Management District continue to coordinate with staff regarding the implementation of adaptive management activities.</p>	Thank you for your comment. The Corps will continue to coordinate with the FWC regarding the implementation of the referenced activities.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	11	<p>The main concern I have with this project regarding flood protection, is the completion of the features to be built under contract 2, 3b and 5, after features that would increase flows from WCA 3A into WCA 3B and south through the L-67, scheduled to be constructed under Contract 1, which will break ground in 2020. It is my understanding that building the upstream components prior to the downstream features would limit the ability to operate them without affecting flood protection. We are also particularly concerned about the delay of the seepage management pump S-356 to Year 2022 and the L-29 Levee Removal, scheduled for 2024. The SFWMD is currently removing Old Tamiami Trail under contract 14 and pursuing the construction of S-333N (1, 150 cfs), under contract 3a, which would be extremely beneficial. Flood protection is recognized as one of the project constraints on page 1-14. While extensive modeling of the features was conducted on other projects such as DECOMP and COP, the phased construction approach was not evaluated as proposed in the EA. The Adaptive Management strategies proposed, acknowledge the issue of the phased approach on pages 2-6 and 2-7, but do not include possible interim flood protection features or measures. Please include a more detailed flood protection discussion in this chapter of the report.</p>	<p>The 2014 CEPP Final PIR/EIS recognized the risks and uncertainties of the CEPP and committed that additional detailed information pertaining to each phase will be developed prior to implementation of each phase of the project. The 2014 CEPP Final PIR/EIS and the accompanying DPOM did not prescribe operations for the incremental construction of CEPP features over the implementation period of several years. The 2020 EA provides detailed information for implementation and interim operation for the CEPP features associated with Contract 1 only, as SFWMD has already conducted agency coordination and was issued an operational permit for S-333N in July 2018. With CEPP Contract 1 and the 2020 interim operations, there is no "new water" in the system. The interim operations detailed in Section 21.0 of the DPOM will maintain pre-project flood risk management (FRM), consistent with the proposed Combined Operational Plan (COP) intervening non-CERP activity, as described in Section 4.5.1.2 of the EA. Since Contract 1 interim operations would initiate prior to the completion of the CEPP's Blue Shanty Levee, partial degrade of the L-29 Canal, completion of the S-355W divide structure in the L-29 Canal, and enlarged S-356 pump station, pre-project FRM performance is maintained by: limiting inflows to WCA 3B to pre-project levels, to ensure no increased seepage flows from eastern WCA 3B towards the L-30/L-31N Canals and the existing S-356 pump station; adherence to the L-29 Canal stage constraints, Tamiami Trail roadway constraints, and 8.5 SMA constraints established in the COP Water Control Plan (in-place prior to CEPP Contract 1 completion); and by accounting for inflows to the L-29 Canal from the proposed, limited-capacity (200 cfs) temporary pumps within the COP Tamiami Trail Flow Formula. Updated hydrologic modeling and agency/public coordination will be conducted to inform development of the permanent update to the Water Control Plan for the WCAs, ENP, and SDCS to incorporate the full complement of CEPP South components, with completion of this Water Control Plan update presently anticipated for 2024. Possible interim flood protection features or measures for future CEPP phases of implementation will be further considered during this study. A comprehensive evaluation of the existing FRM performance associated with COP is available in Section 4.15 of the COP Draft and Final EIS.</p>

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Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	12	In Sections 2.4.2 Flood Risk management and 4.5.1, the report acknowledges that due to “further certainty regarding the schedule for implementation of upstream operational changes that will supply additional inflows south to WCA 3A and quantification of these flows, which has the potential to alter these conclusions, future CEPP South hydrologic modeling will need to re-assess performance for the 8.5 SMA flood mitigation constraint. Since the CEPP degrade of the L-29 Levee will be a permanent change to the C&SF infrastructure, hydrologic modeling in support of a future Water Control Plan update will necessarily be completed prior to PED design of this CEPP South component in 2023. “There is no language or provisions in the document about future test operations during flood events, targeting flood protection for the existing structures along the L-31N and 8.5 Square Mile Area, to address the phased construction approach and the future conditions with CERP.	Consistent with the requirements of the 2014 CEPP Chief’s Report, the USACE will ensure that all legal requirements are met for each phase and compliance will be maintained throughout the entirety of CEPP implementation. Additional agency and public coordination efforts, including review of future hydrologic modeling outcomes, will be conducted to inform development of the permanent update to the Water Control Plan for the WCAs, ENP, and SDCS to incorporate the full complement of CEPP South components, with completion of this Water Control Plan update presently anticipated for 2024. Other hydrologic modeling and CEPP-related study efforts for related projects will also be incorporated into this next (post-COP) Water Control Plan update, including the following: validation report for CEPP North, scheduled to begin in October 2020; Lake Okeechobee System Operating Manual development, scheduled for completion in 2022; SFWMD operational plan development for the A-2 Stormwater Treatment Area associated with the CERP EAA Reservoir; and hydrologic monitoring and reporting under the COP Adaptive Management and Monitoring Plan. Focus areas for the updated analysis would include further development of CERP Rain-Driven Operations (RDO) for CEPP, building off the COP efforts in developing the Tamiami Trail Flow Formulas, and updated analyses of FRM performance for the 8.5 SMA and the Lower East Coast Service Areas with. Full build out of CEPP and EAA Reservoir infrastructure were also evaluated via EAA Reservoir RSM-GL modeling and Savings Clause analysis included in the USACE May 2020 Final EIS for the EAA Reservoir and A-2 STA. The Water Control Plan operations in the 2020 COP and the interim operations described in the 2020 DPOM will be used during normal operations and during flood events, pending future updates and updated NEPA.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	13	<p>The two sets of temporary pumps (Figure 2-3), are rated at combined 100 cfs at each location (200 cfs total), to support interim flow tests as part of CERP/CEPP Adaptive Management Strategy. The capacity of these pumps seem to be small when compared to the potential runoff produced within the WCA 3B just by rainfall, even without inflows through the L-67. The report states that pumping will cease when L-29 canal stages reach 8.5 feet, NGVD per the COP Water Control Plan, or in response to other relevant L-29 operational limitations prescribed under the COP for protection of the Tamiami Trail Roadway and/or the 8.5 SMA. The L-29 temporary pump capacity will be limited to one-half of the combined inflow to WCAs. Please provide more details on the purpose of these temporary pumps and how the combined capacity of 200 cfs was determined. On page 3-5, the report reflects the COP EIS conclusion that raising stages along the L-29 to 8.5 feet NGVD may be difficult without the construction of the Tamiami Trail Next Steps (TTNS) Bridges. We would like to see flood protection interim operational tests, as new features are constructed and placed in service, as part of the Adaptive Management Strategies for the project, in addition to the water deliveries to the ENP.</p>	<p>Additional information regarding the L-29 pump sizing was added to Section 2.3.5 of the Final EA. The purpose of the L-29 temporary pumps is to serve as an interim measure to enhance and redirect flow south towards the L-29 Canal (rather than to the east), complementing the active vegetation management within the Blue Shanty Flowway and initiating transition of the Blue Shanty Flowway towards the CEPP planned end state, as described in Section 2.2 of the EA. Flow monitoring conducted for the Decomp Physical Model (DPM) and documented in the 2020 SFWMD South Florida Environmental Report (Appendix 6-1) indicate that approximately one-third of the total flow volume across the DPM L-67C gap was from wetland sheetflow through the upstream marsh, with the remaining two-thirds contributed from the unblocked extensions of the L-67C Canal. Surface water fluxes from S-632 and/or S-633 culverts located within the planned Blue Shanty flowway will be limited to a maximum of 750 cfs, and the portion of surface water fluxes towards the L-29 temporary pumps will be further reduced by easterly topographic and hydraulic head gradients within WCA 3B (prior to construction of the L-67D Levee), retention of the DPM L-67C gap during the CEPP interim operations (limiting southerly flows from upstream in central WCA 3B), and the southern L-67C Canal re-directing a portion of the flows reaching the L-67C interim gap further south within the pocket (only one 3000 foot gap of L-67C Levee is removed with Contract 1). The L-29 temporary pumps are temporary features with temporary wetland impacts, construction/installation costs, and operational fuel costs, such that the pump capacity for ALTB4 interim operations is limited to the southerly flow volume reasonably anticipated to reach the L-29 Levee based on consideration of the available hydrologic information, including effects from the planned active vegetation management. L-29 temporary pump capacity of 200 cfs has also been successfully deployed by SFWMD during the State of Florida WCA High Water Emergency events during 2016 and 2018 at S-355A, while ensuring continued access along the L-29 Levee.</p> <p>The Water Control Plan operations in the proposed 2020 COP and the interim operations described in the 2020 DPOM will be used during normal operations and during flood events, pending future updates and updated NEPA. Future updates may consider flood protection interim operational tests, in support of increased inflows to NESRS associated with CEPP implementation; increased inflows are not proposed with the interim operations evaluated under this EA.</p>

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Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	14	Figures 4-11 and 4-12 do not have a legend for the vector, representing flow	The overland flow vectors are displayed to visualize direction across the landscape. The coloration of the arrows represents the relative volume of surface water flow (blue for higher flows; red for lower flows). Description has been added in Section 4.4.2 of the EA, where the vector maps are cross-referenced.
Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	15	On page 4-33 the report states that the 8.5 SMA flood mitigation performance was evaluated using the MD-RSM, since the RSM-GL model resolution is too coarse around the 8.5 SMA to evaluate localized effects from the S-357, S-357N, and S331 operations. The combined modeling strategy is adequate for the purposes of evaluation of scenarios. The stage-duration curves seem to indicate that there will be no significant impact to the existing flood protection levels of service in the 8.5 Sq. Mile Area.	Thank you for your comment.
Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	16	The figures 4.36 and 4.37 seem to indicate that there would be improvement when compared to current conditions, regarding the extent of flooding. The selected evaluation criteria does not seem sufficient to establish levels of service in agricultural area and habitable structures, which would require a comparison of frequency distribution of extremes events. Without those statistics we cannot tell if the project will improve flood levels of service, in a meaningful way, only if it would get wetter or drier. The report provides stage duration curves, but they are difficult to read at the high levels. Can a table with the standard frequencies be provided for the 0.2%, 1% and 10% probability of exceedance?	The 1983 base condition (also referred to as Base 83) represents the Congressionally authorized flood mitigation performance standard for all the 8.5 SMA locations within the interior of the protective levee, consistent with the methodology applied for the 2000 MWD 8.5 SMA GRR/Environmental Impact Statement (EIS) and in the 2020 COP Final EIS. This planning condition represents the authorized canal levels and operations prior to the Experimental Water Deliveries Program, consistent with the pre-project baseline used for analysis of the 8.5 SMA performance within the 1993 MWD General Design Memorandum (GDM) and the 2000 MWD 8.5 SMA GRR/ EIS. The Record of Decision for the 2000 MWD 8.5 SMA GRR/EIS identifies the plan for providing flood mitigation to the 8.5 SMA and mandates implementation guidance that "the periodic flooding of landowners east of the proposed levee, before and after project implementation, will remain unchanged from conditions in existence prior to implementation of the MWD project except where flowage easements are required." Additional background information for this constraint is provided in the 2020 COP Final EIS, specifically sections 2.1.2, Section 4.14, and Annex 6 in Appendix H. Consistent with the established USACE flood mitigation constraint for 8.5 SMA based on the MWD project authorizing decision documents, the evaluation methodology does not include an established "level of service" in agricultural area and habitable structures within the 8.5 SMA and instead identified a project performance constraint for flood mitigation. The cited EA figures generally indicate that the 8.5 SMA interior area within each depth classification for peak stage (for the modeled alternatives ALTB1, ALTB2, and ALTB3) is reduced compared to the no action alternative (CSB2027). The MWD authorization identified a plan to provide flood mitigation for the effects of increased water levels within adjacent ENP, whereas a probabilistic characterization of flooding within 8.5 SMA would be appropriate if the goal of COP and CEPP operations was to further reduce flood risk through a combination of operations and structural components; this increased performance objective would require a separate study and

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
				authority (e.g. feasibility study) beyond MWD. For such a study, additional modeling tools and/or an expanded simulation period for the MD-RSM would be necessary to provide the appropriate statistical sample size for probability reporting. Each stage duration curve in the EA represents the 15-minute MD-RSM time-step outputs for one individual wet, dry, or average simulation year.
Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	17	There is an apparent inconsistency in the Figure 4.27, showing that the average stages in a wet year would be higher than base conditions, impacting the flood levels of service, which seem to contradict the statements of no impact and the results of figures 4.36 and 4.37. Can you please explain this apparent inconsistency?	Section 4.5.1.1 of the EA states that the 8.5 SMA flood mitigation performance was evaluated using the MD-RSM, since the RSM-GL model resolution is too coarse around the 8.5 SMA to evaluate localized effects from the S-357, S-357N, and S331 operations which are critical to 8.5 SMA flood risk management. The RSM-GL model stage difference results shown on the cited EA figure do indicate a minor stage increase for the 8.5 SMA during the October 1995 extreme wet event, providing further support to the necessity of more detailed evaluations using the MD-RSM application. Please refer to Section's 4.5.1.1 and 4.5.1.2 of the EA, including Figures 4-35 through 4-42 and Table 4-7, for information regarding 8.5 SMA flood risk management performance assessments with the MD-RSM results.
Miami-Dade County Department of Regulatory and Economic Resources, Water Management Division	June 15, 2020	18	The figure 4.40 indicates that the all alternatives would result in shorter hydroperiods at LPG2, which is the indicator gauge of the 8.5 Sq. Mile Area, and LPG17, when compared to the baseline. However, the model results for the CBS2027 (No Action Alternative) shows wetter conditions. CBS2027 includes additional flows, resulting of future CERP projects, not included in the project alternatives. This change in flow conditions make the comparison of the alternatives against the No-Action alternative difficult, since the boundary conditions are not the same. Please explain why this comparison could still be valid.	The cited EA figures indicate that 8.5 SMA hydroperiods relative to ground surface elevation are shorter than the 1983 Base Condition flood mitigation constraint for the no action alternative (CSB2027; similar performance as ALTB4) and the modeled action alternatives (ALTB1, ALTB2, and ALTB3). The RSM-GL boundary condition inflows from the EAA and the MD-RSM boundary conditions along I-75 and Mullet Slough are the same for the no action alternative and the modeled action alternative, and the results are comparable to assess the effects of CEPP South implementation given the static WCA 3 water budget assumptions. The no action alternative assumptions are described in Section 2.3.1 of the EA. The no action alternative and the modeled action alternatives each include construction and operation of CERP authorized projects projected to be completed by 2027, as identified in the October 2019 South Florida Ecosystem Restoration IDS, to include: (1) the Broward County Water Preserve Area (BCWPAs) C-11 Reservoir; (2) Caloosahatchee River (C-43) West Basin Storage Reservoir; (3) Indian River Lagoon C-44 Reservoir/STA and C-23/C-24 Reservoir North. The action alternatives include the authorized CEPP South project features with variable operations, including significant hydrologic effects within NESRS and 8.5 SMA associated the inclusion of the S-355W L-29 divide structure and removal of the remaining 5.5 miles of the L-67E Canal and Levee.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	19	<p>Thank you for the opportunity to comment on the Draft Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for proposed construction and interim operations of features of the Central Everglades Planning Project (CEPP) South. The South Florida Water Management District (District) is authorized to act as the non-Federal sponsor for Comprehensive Everglades Restoration Plan (CERP) projects and has been heavily involved in the planning, design and construction of these projects. The District has provided technical support and resources throughout the development of the CEPP South to ensure project objectives have been met and commends the U.S. Army Corps of Engineers (USACE), Jacksonville District for the preparation of the Draft EA and Proposed FONSI.</p> <p>The Draft EA and Proposed FONSI are consistent with the goals and objectives of the CEPP South and the CERP. The CEPP South will provide the conveyance features needed to deliver and distribute existing water and the additional flows provided by the EAA Reservoir from Water Conversation Area 3A to Water Conservation Area 3B and Everglades National Park (ENP). These additional flows will provide ecological benefits to the Central Everglades including restoration of vegetative communities, improved hydroperiods and increased flows to Northeast Shark River Slough in ENP.</p> <p>In accordance with the National Environmental Policy Act (NEPA), the Draft EA and Proposed FONSI properly evaluate environmental effects associated with the CEPP South Contract 1 features and interim operations. The District generally supports the USACE' Draft EA and the Proposed FONSI for the Central Everglades Planning Project South. We recognize the preferred alternative, ALTB4, which includes the S-631, S-632 and S-633 structures, will be operated consistent with the current limits of the S-152 structure. However, the District requests additional information be provided in the EA regarding the operations of the temporary pumps and any effects to water quality from the preferred alternative. Additional comments on the Draft EA documents are attached.</p> <p>The District looks forward to continuing momentum on this critical component to the CERP program and is proud to partner with the USACE on construction of the Central Everglades Planning Project.</p>	Thank you for your comments. See response to specific comments below.
South Florida Water Management District	June 22, 2020	20	Within Table 1-1, which straddles pages 1-3 and 1-4, it appears as if the descriptor for "CEPP South" appears to have been omitted.	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	21	On page 1-6, the western limit of the OTT removal appears to have been described as "the tram road". It is unclear where Tram Road is. Suggest replacing "tram road" with something that describes a point approximately 0.25 miles east of Shark Valley Loop Road	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	22	On page 1-7 where it talks about the S-333N "would be constructed..." suggest replacing that with "is being constructed..."	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	23	Although many occurrences refer to the aggregate complex at S-333 as "S-333/S-333N" and recognizing that it would appear to be inappropriate to do a wholesale substitution, it is suggested that [because it is being constructed] wherever possible (e.g. when used for east or west geographical reference points) "S-333/S-333N" be used.	Text referencing S-333/S-333N has been edited as appropriate.
South Florida Water Management District	June 22, 2020	24	Within the row for CERP Projects within table 4-14, for this occurrence, it appears as if "S-333N" should read "S-333".	The referenced text has been edited.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	25	The footer for Appendix A incorrectly identifies it as Annex C.	The standard template for CERP Project Implementation Reports, included in the July 2007 Draft CERP Programmatic Guidance Memoranda, prescribe that Project Operating Manual is included as Annex C. Since the 2020 DPOM update for interim operations is an update to Annex C from the 2014 CEPP Final PIR/EIS and Annex C from the 2020 Final EIS for the EAA Reservoir and A-2 STA (Annex C is included from the 2018 SFWMD EAA Reservoir Section 203 Report), the footer retains the label as Annex C.
South Florida Water Management District	June 22, 2020	26	Within Appendix A, within the description for S-333N (page C-21), "under which S-333N is only operated under Emergency Limited Operations for WCA-3 High Water Relief in a accordance with prescribed conditions" should be removed as the District has applied to FDEP for a permit modification to allow S-333 to be used interchangeably and/or together with S-333 to achieve S-333's purposes	Concur. S-333N description has been updated as recommended, consistent with the S-333/S-333N operational flexibility included in the 2020 COP Water Control Plan.
South Florida Water Management District	June 22, 2020	27	Within Appendix A subsection 5.10, suggest removal of the parenthetical "design capacity of 1,350 cfs) in light of the District's recent permit modification request, because it appears unique to this structure, and because [independent of the modification] would appear to have a limited "shelf life".	Section 5.10 of the Draft DPOM included outdated information inadvertently retained from the 2014 CEPP Final PIR/EIS (originally compiled in 2012). This section of the DPOM was updated to reflect the current Tamiami Trail roadway status per the 2020 COP Water Control Plan and to include a current status and schedule for the DOI Tamiami Trail Next Steps Phase 2 implementation.
South Florida Water Management District	June 22, 2020	28	Within Appendix A, recognizing that it would appear to be inappropriate to do a wholesale substitution, it is suggested that [because it is being constructed] wherever possible (e.g. when used for east or west geographical reference points) "S-333/S-333N" be used.	S-333N description has been updated as recommended with prior comment #26, consistent with the S-333/S-333N operational flexibility included in the 2020 COP Water Control Plan. Future updates for CEPP South full implementation will include the 2500 cfs combined capacity of S-333/S-333N, at which time the recommended edits may be more appropriate.
South Florida Water Management District	June 22, 2020	29	Within Appendix B, under Chapter 373, it states that SFWMD is the agency responsible for implementing this statute. While this is true for some projects, for CERP projects, FDEP is the responsible entity.	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	30	On page 1-9 (section 1.3.2.), end of 1st paragraph reads: "The DPM is designed to provide information regarding the effects of levee removal and canal backfill on the ridge and slough landscape." Recommend changing this to: "The DPM is designed to provide information regarding the ecological benefits of sheetflow restoration and effects of levee removal and canal backfill on the ridge and slough landscape." paragraph 2 reads: "Three 1,000-foot backfill treatments (no backfill, partial backfill and complete backfill) are located within the L-67C canal, adjacent to and directly east of the S-152 structure." Recommend changing to: "Three 1,000-foot backfill treatments (no backfill, partial backfill and complete backfill) are located within the L-67C canal approximately 9,000-ft south-southeast of the S-152 structure on the L-67A levee."	The referenced text has been edited.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	31	p. 2-6 (Section 2.2 CEPP South Adaptive Management Features) 3rd bullet point labelled "Active Vegetation Management" Sentence reads: "Active vegetation management of these sloughs, combined with backfill of the east-west remnant agricultural ditch and spoil pile removal, is expected to redirect more flow toward the natural orientation (south) of the landscape and to increase the areal extent of sheetflow in the Blue Shanty levee." Recommend revising as follows: "Active vegetation management of these sloughs, combined with backfill of the east-west remnant agricultural ditch and spoil pile removal, is expected to increase the areal extent of sheetflow in the Blue Shanty levee and to redirect more flow toward the natural orientation (south) of the landscape, rather than to the east."	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	32	On page 2-10 Recommend changing: "The proposed temporary pumps would be utilized as an interim measure to improve the southerly flow conveyance towards the L-29 canal, complementing the active vegetation management within the Blue Shanty Flowway and initiating transition of the Flowway towards the CEPP planned end state." Recommend revising to: "The proposed temporary pumps would be utilized as an interim measure to enhance and redirect flow south towards the L-29 canal (rather than to the east), complementing the active vegetation management within the Blue Shanty Flowway and initiating transition of the Flowway towards the CEPP planned end state."	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	33	on p. 2-16 recommend changing the text: "(a) support continued scientific tests and scientific data collection related to the ecological effects of backfilling canals and modifying levees, consistent with the DPM Phase 2 field test, while maintaining the COP project objectives and providing enhanced sheetflow within WCA 3B" Recommend revising to: "(a) support continued scientific tests and scientific data collection related to the ecological benefits, and potential risks, of enhanced sheetflow, backfilling canals and modifying levees, consistent with the DPM Phase 2 field test, while maintaining the COP project objectives and providing enhanced sheetflow within WCA 3B"	The referenced text is consistent with prior NEPA completed for the DPM with respect to objectives of the field test. No further edits are proposed.
South Florida Water Management District	June 22, 2020	34	p. 1-16 (section 1.10 Permits, Licenses and Entitlements) Recommend replacing this sentence: "A large scale active management study was initiated to reconnect sloughs (up to 2 km from S-152) that have been encroached by sawgrass for purposes of evaluating the degree to which active management can increase the extent of sheetflow and restoration of sloughs under the DPM." With the following: "As part of the DPM field test, a large-scale active management study was initiated to reconnect sloughs (up to 2 km from S-152) that have been encroached by sawgrass. The objectives of this study were to evaluate the degree to which active management can increase the spatial extent of sheetflow and slough habitats, and to redirect flow south, in alignment with historic landscape patterning, rather than east (preliminary results provided in Sklar, 2020)." Reference: Sklar, F.H. (ed.). 2020. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	35	On page 2-9, the location of the S633 gap in the figure appears to be different than the location provided by the DPM science team. The location should be moved slightly north so it overlaps and aligns with the Active Vegetation Management area (blue shading)	The figures in Section 2 include the most up to date location with respect to the S-633 gap. Text has been added to the title of Figure 2-3 to note that the location of the 3,000 foot interim gap depicted in the figure represents the central point of the gap.
South Florida Water Management District	June 22, 2020	36	On page 2-16, After the text: "The scientific tests, including utilization of the new CEPP South features, will continue to be carefully designed in coordination between the DPM Science Team and the CEPP AM team, to ensure that test results are of significant value to future Everglades' restoration efforts." Recommend adding the following: "Following appropriate review, the recommendations from DPM Science Team and CEPP AM Team should be integrated into CEPP-S project planning and implementation."	Following appropriate review, the recommendations from DPM Science Team and CEPP AM Team may be integrated into CEPP-S project planning and implementation following the established Corps' protocols for AM. Text added to "Environmental Commitments" in Section 4.22.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	37	Related to Sulfur-loading discussed on page 4-69, paragraph 4. It is uncertain how much loading through the S-63x structures will occur. The loading likely depends on the ability to re-establish marsh to-marsh connectivity via spoil bank removal west of the L-67A canal.	Appropriate changes have been made in the Final EA.
South Florida Water Management District	June 22, 2020	38	In document "CEPP South EA Appendix A Draft Project Operating Manual May2020.pdf", on p. C-51 (7.3 WATER QUALITY), there is some mention that adaptive management is to be integrated into CEPP. Please provide more specific details on how this integration of adaptive management will be implemented, how it will be ensured that actionable recommendations from the DPM and CEPP AM Teams will be integrated into CEPP project scope and sequencing.	The implementation requirements for CEPP Adaptive Management were defined in the Adaptive Management Appendix of the 2014 CEPP Final PIR/EIS, and USACE guidance requires that modifications to a project's Adaptive Management Plan be approved at USACE Headquarters. The USACE and SFWMD leadership are engaged in collaborative discussions regarding the process to implement construction fixes, if needed, within the CEPP Adaptive Management framework. Consistent with AM commitments from the 2014 CEPP Final PIR/EIS (Section 6.1.4), the CEPP AM and Monitoring Plans contain descriptions of monitoring that should address specific uncertainties identified during CEPP planning, required parameters such as water quality and water levels, and ecological features that track CEPP's progress toward success. The monitoring data will indicate CEPP's progress toward the objectives of CEPP, and CEPP's conformance to applicable legal requirements. The monitoring descriptions are found in detail in Annex D Part 1 Sections D.1.3 – D.1.4 (pages 13 – 91) and in Annex D Parts 2, 3, 4; the water quality monitoring plan is Part 2. Section 6.3.2 of the 2014 CEPP Final PIR/EIS notes that "The Corps and its Federal and State partners recognize that to achieve long-term hydrologic improvement, water quality may be impacted, particularly as measured by the current Consent Decree Appendix A2 compliance methodology. The Corps and the State partners agree that the monitoring locations/stations for inflows to ENP will require revision. The Technical Oversight Committee ("TOC") is currently conducting an evaluation of this and other aspects of the compliance methodology. In an effort to address these potential impacts and determine updates to Appendix A to reflect increased inflows and new discharges into ENP since the Consent Decree was entered, the parties to the Consent Decree have established a process and scope for evaluating and identifying necessary revisions to the Appendix A compliance methodology utilizing the scientific expertise of the TOC." Continuing from Section 6.3.2, "All parties are committed to implementing the State Restoration Strategies, joint restoration projects, and associated operational plans, in an adaptive manner that is consistent with the objectives of the underlying C&SF Project. The Corps and the State will use all available relevant data and supporting information to inform operational planning and decision making, document decisions made, and evaluate the resulting information from those decisions to avoid adverse impacts to water quality where practicable

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
				and consistent with the purposes of the C&SF Project." Further clarification has been added to Section 2.3.5 (Alternative B4 description) of the EA, Section 21.0 of the DPOM (Appendix A of the EA), and Section 4.22 (Environmental Commitments) of the EA.
South Florida Water Management District	June 22, 2020	39	In document "CEPP South EA Appendix A Draft Project Operating Manual May2020.pdf", on page C-56. It states operating criteria of S-63x structures may be modified with approval by the USACE and the SFWMD that results from CERP updates and/or recommendations from the adaptive assessment process as outlined in draft GM #6, Section 6.3.1." How will Adaptive Management recommendations that are not just about operations of structures be incorporated into CEPP? For example, how would recommended constructed fixes be implemented (e.g., adding energy dissipaters downstream of culverts to prevent scouring or excessive P-loading and P-enrichment? Incorporating measures to reduce or blocking L-67C canal flow to enhance marsh-to-marsh connectivity)? What is the process to incorporate these types of adaptive management recommendations?	The implementation requirements for CEPP Adaptive Management were defined in the Adaptive Management Appendix of the 2014 CEPP Final PIR/EIS, and USACE guidance requires that modifications to a project's Adaptive Management Plan be approved at USACE Headquarters. The USACE and SFWMD leadership are engaged in collaborative discussions regarding the process to implement construction fixes, if needed, within the CEPP Adaptive Management framework. Further clarification has been added to Section 2.3.5 (Alternative B4 description) of the EA, Section 21.0 of the DPOM (Appendix A of the EA), and Section 4.22 (Environmental Commitments) of the EA.
South Florida Water Management District	June 22, 2020	40	In document "CEPP South EA Appendix C Clean Water Act 404(B)(1) Evaluation.pdf", p.20 (section 1.8.6 Suspended Particulate/Turbidity Determinations) states "Longer-term impacts to water quality not associated with fill and associated with the operation of project features will be addressed through operational monitoring and adaptive management actions, if potentially adverse effects are observed or predicted." Can the adaptive management actions be elaborated on? For example, DPM findings show evidence of sediment P-enrichment associated with areas of excessive velocities (>3-15 cm/s) and downstream of degraded levee areas adjacent to unbackfilled canals (Saunders, 2020; Sklar 2018 and 2019). These findings imply that energy dissipation downstream of culverts or mechanisms to block or slow canal-flow may be needed to reduce P-loading around these areas where sediment P enrichment is occurring. Would these two active measures be consistent with the AM actions referred to in the text? References: Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	P-enrichment in DPM project has been acknowledged and a brief description and reference to the 2014 CEPP PIR/EIS Adaptive Management Plan has been included in Appendix C CWA 404(B)(1) Evaluation of the Final CEPP South EA.
South Florida Water Management District	June 22, 2020	41	In document "CEPP South EA Appendix D Pertinent Correspondence.pdf", p. 10 (4.1 CEPP SOUTH PLAN FEATURES): Recommend changing the sentence: "These data therefore provide a useful example of stage changes within WCA 3B expected from the proposed CEPP culvert discharges." To the following: "These data therefore provide a useful example of stage changes within WCA 3B expected from the proposed CEPP culvert discharges, but with the caveat that they do not include effects absence of any active vegetation management measures that redirect flow (and by inference stage increases to some degree) south instead of east (Sklar, 2020)." Reference: Sklar, F.H. (ed.). 2020. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	The referenced text is in the CEPP South BA that was provided to the USFWS on January 23, 2020 and therefore cannot be edited at this time as consultation has concluded.
South Florida Water Management District	June 22, 2020	42	Figure 1-1 Editorial: Figure implies that WCA1 and WCA2 are part of CEPP study area, but description in 1.3.1 does not include these areas in description. Consider including how WCA1 and WCA2 are considered as part of the CEPP Study Area in 1.3.1.	Section 1.2 (Project Location) has been updated in the Final EA to clarify what portion of south Florida is potentially affected by implementation of the proposed action.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	43	Whole page. Please ensure that the L-29 Canal temporary Pumps do not interfere with ease of travel and access for monitoring existing structures. How will access be guaranteed?	L-29 temporary pump capacity of 200 cfs has been successfully deployed by the SFWMD during the State of Florida's WCA High Water Emergency events during 2016 and 2018 at S-355A, while ensuring continued access along the L-29 levee. Construction methods and lessons learned from prior pump deployments will be incorporated in the planning and construction for the proposed CEPP South L-29 temporary pumps, while also integrating additional implementation considerations due to the anticipated longer deployment duration for the proposed temporary pumps.
South Florida Water Management District	June 22, 2020	44	Fig. 2.3. Editorial: Figures 2.2 and 2.3 illustrate different phases or alternatives of the L67 degrade versus temporary pumps proposed. Furthermore, Figure 2.3 is referenced both in the sections describing AltB2 (for vegetation management) and ALTB4 (for temporary pumps). This adds to confusion of what alternative this document is attempting to describe. Suggest including the appropriate ALTB2, ALTB4, or phase designation in the Figure titles and when referencing those in the report text. Figure 2-3. Clarify location of potential active marsh improvement in the Blue Shanty Flowway in WCA3B with potential location of temporary pumps (ALTB4) located north of the L-29 canal.	The caption of Figure 2-3 has been updated to include reference to the alternatives considered. Text within Section 2.2 has been revised for clarity.
South Florida Water Management District	June 22, 2020	45	in document "CEPP South EA Appendix D Pertinent Correspondence.pdf" p. 11, paragraph 1, it should be noted that models did not incorporate the effects of large-scale active vegetation management, which may to some degree redirect flows (and by inference stage increases) south rather than east, as shown in DPM (Sklar, 2020) Reference: Sklar, F.H. (ed.). 2020. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	The referenced text is in the CEPP South BA that was provided to the USFWS on January 23, 2020 and therefore cannot be edited at this time as consultation has concluded.
South Florida Water Management District	June 22, 2020	46	Section 3.4. Editorial: Section concerns Study Area Land Use, first section describes area of the project in the Everglades, second section goes into land use of the LEC. Which of these is the study area? If both paragraphs are needed reverse the order going from larger general areas to smaller more specific one	The second paragraph has been deleted from the revised document as it is not directly pertinent to the area potentially affected by implementation of the proposed action.
South Florida Water Management District	June 22, 2020	47	Section 4.16. This section is on Cultural Resources. How would this project impact access to the Valu-Jet Memorial?	Impacts to the Valu-Jet memorial are not anticipated.
South Florida Water Management District	June 22, 2020	48	Line 23+/- . Note for future monitoring and water quality assessment: "Sumps" to facilitate discharge from a marsh area, here specifically related to temporary pumps, can be an area prone to collecting high nutrient concentrations as water levels recede from the marsh. Consideration of local effects on TP concentrations should be made when establishing methodologies to evaluate water quality. Localized and potentially temporary concentration effects in these areas should not be overemphasized when incorporated to any water quality assessment methodology. See also Water Quality section comment Section 4.10.	A statement has been added on page 2-7 to describe that impacts from sump on water quality will be considered when evaluating water quality monitoring methods.
South Florida Water Management District	June 22, 2020	49	Paragraph 3. Editorial: This section states: "FDEP has recently established surface water quality numeric nutrient criteria for all Florida water bodies." Not all water bodies in South Florida have numeric nutrient criteria established, for example: South Florida Canals.	Appropriate changes have been made in the Final EA.
South Florida Water Management District	June 22, 2020	50	Paragraph 3. Editorial: Consider updating language related to sulfur reducing bacteria and mercury. See attached suggested edits.	Appropriate changes have been made in the Final EA.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	51	Table 4-4. Why is the S-152 structure flow not in ALTB2 culverts flow into Blue Shanty Flowway in Table 4-4? Acknowledgement of this limitation on modeling performed or the reasoning for the differing assumptions should be documented. Currently, these tables promote confusion on what alternative(s) are being presented in this document.	Consistent with the DPM assumptions developed for the 2014 CEPP Final PIR/EIS, the EA alternatives with full CEPP South implementation (ALTB1 ALTB2, and ALTB3) assumed that the DPM structure would not be in operation after the current USACE SAD Operational Strategy approval concludes in December 2021, and not as a permanent feature to be relied upon for operations in the future. Section 2.3.5 of the EA includes the acknowledgment that S-152 may not be operated concurrently with operation of S-631, S-632, or S-633 without completion of either (a) a Corps' decision document that incorporates the S-152 gated culvert into the C&SF Project; or (b) SFWMD's request for and the Corps' grant of a Section 408 permission for SFWMD to continued S-152 operations. Based on the hydrologic modeling of the full suite of CEPP/EAA project features conducted to date under the 2014 CEPP Final PIR/EIS and the 2018 SFWMD Section 203 Report (included in the 2020 EAA Reservoir and STA Final EIS), continued S-152 operations under CEPP implementation have not been evaluated, and the combination of S-632 and S-633 were operated to provide a maximum inflow of 1,000 cfs (assumed inclusive of the S-152, were this feature subsequently incorporated into CEPP) into the Blue Shanty flowway following completion of CEPP South components; this assumption will be revisited during future Water Control Plan updates, pending decisions regarding potential integration of S-152 into the C&SF Project. Additional clarification regarding this assumptions was added to Section 4.4.2 of the Final EA.
South Florida Water Management District	June 22, 2020	52	Table 4-4. Historic operational constraints based upon water quality are factored in the AltB4 S-152 monthly flows in Table 4-5, but these same considerations are not made for AltB2 flows at S-632 and S-633 culverts in Table 4-4. Acknowledgement of this limitation on modeling performed or the reasoning for the differing assumptions should be documented. Currently, these tables promote confusion on what alternative(s) are being presented in this document.	Consistent with the assumptions developed for the 2014 CEPP Final PIR/EIS, the EA alternatives with full CEPP South implementation (ALTB1 ALTB2, and ALTB3) assume that the existing water quality constraints that govern S-152 permitted operations would not be required at S-631, S-632, and S-633 following full CEPP implementation. Inherent in the modeling assumptions are limited inflows to WCA 3B and the Blue Shanty Flowway based on Rain-Driven Operations (RDO) that balance water level considerations within WCA 3A and ENP based on the assumed WCA 3 water budget. Although this water quality assumptions was already described in Section 4.10 of the EA (Water Quality evaluation), additional clarification was also added to Section 2.3 in the Final EA.
South Florida Water Management District	June 22, 2020	53	Table 4-5. It is not clear how the average monthly flow of 153 cfs was determined for structure S-152. Recalculate average and provide corrected value... or explain the calculation methodology with the months included/excluded from the average and the reasoning behind this or recalculate the average.	Concur. This was a typo. The month of May was missing from the table and the average should be 81 cfs.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	54	Table 4-5. Editorial: Table 2-1 indicates that the S-152 DPM structure provides operational flexibility but was "not modeled". If this is true, from where are the monthly flows in Table 4-5 derived? Should Table 2-1 instead indicate that S-152 was only modeled for CSB2027?	S-152 was modeled in CSB2027 only. Based on the hydrologic modeling of the full suite of CEPP/EAA project features conducted to date under the 2014 CEPP Final PIR/EIS and the 2018 SFWMD Section 203 Report (included in the 2020 EAA Reservoir and STA Final EIS), continued S-152 operations under CEPP implementation have not been previously evaluated, and the combination of S-632 and S-633 in ALTB1, ALTB2, and ALTB3 were operated to provide a maximum inflow of 1,000 cfs (assumed inclusive of the S-152, were this feature subsequently incorporated into CEPP) into the Blue Shanty flowway following completion of CEPP South components; this assumption will be revisited during future Water Control Plan updates, pending decisions regarding potential integration of S-152 into the C&SF Project. Additional clarification regarding this assumptions was added to Table 2-1 of the Final EA.
South Florida Water Management District	June 22, 2020	55	SRB P2 & P4. Editorial: Consider updating language related to sulfur reducing bacteria and mercury. See attached suggested edits.	Appropriate changes have been made in the Final EA.
South Florida Water Management District	June 22, 2020	56	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. General Comments: 1. Schematics should accompany the description of the complicated water management within the study area. Especially in sections 3.5 & 3.6, describe the hydrology & operations in different parts of the system with sufficient illustrations. Document, currently, does not make a single reference to any figure.	Additional schematics for water control features of WCA 3A/3B and ENP were added to the final EA in Section 3.5.1 and 3.5.2, respectively. A cross-reference to these figures was also added to Section 3.6.
South Florida Water Management District	June 22, 2020	57	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. General Comments 2. The document contains several acronyms. A glossary is necessary for this type of document.	Acronyms are defined when first used.
South Florida Water Management District	June 22, 2020	58	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. General Comments 3. Note that there was no explicit regional simulation (both RSMGL & MDRSM) run called "ALTB4". Some text in document (Section 2.3, 4th paragraph, page 2-11) initially mentioned this fact. Please reiterate in other parts of the document, especially towards the end, so that there will not be an expectation that an "ALTB4" modeling scenario was archived in some form or another. "Model" performance of ALTB4 is best professional judgment.	In addition to Section 2.3, the Draft EA included recognition that ALTB4 was not modeled in the introduction to the evaluation chapter in Section 4. Additional clarification has also been added to Section 4.4 (hydrology), Section 4.5.1 (Savings Clause introduction), and Section 4.5.1.2 (Saving Clause evaluation for ALTB4).
South Florida Water Management District	June 22, 2020	59	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comments: 1. Section 2.4.1, page 2-22, 4th paragraph states that the RSM-GL model is primarily a surface water model. Please state that the RSM-GL model is a fully integrated surface and groundwater model whose conceptualization for this application was limited to the surficial aquifer only, and thus does not provide water levels below the Biscayne Aquifer	Concur. Text has been updated in Section 2.4.1 of the Final EA.
South Florida Water Management District	June 22, 2020	60	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 2. Section 3.5.1, page 3-3, 3rd paragraph: "...into the dry season (November and December) ..." should say "...into the start of the dry season (November and December) ..."	Concur. Text has been updated in Section 3.5.1 of the Final EA.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	61	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 3. Section 3.5.1, page 3-3, 4th paragraph: "When canal levels drop below..." should say "When coastal canal levels drop below..."	Concur. Text has been updated in Section 3.5.1 of the Final EA.
South Florida Water Management District	June 22, 2020	62	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 4. Section 3.5.1, page 3-4, 4th paragraph: "...are typically made from the Regional system." should say "...are typically made from the Regional system (WCAs and Lake Okeechobee)."	Concur. Text has been updated in Section 3.5.1 of the Final EA.
South Florida Water Management District	June 22, 2020	63	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 5. Section 3.5.2, page 3-5, 3rd paragraph: "The Rocky Glades and Taylor Slough..." – Since these two areas are mentioned separately, what are their differences? What's their individual significance?	An expanded description of the hydrologic significance of the Rocky Glades has been added in Section 3.5.12 of the Final EA.
South Florida Water Management District	June 22, 2020	64	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 6. Section 4.5.1.1 ALTB2, page 4-33, second paragraph, first sentence: Please add the model used to read: "The modeling of ALTB2 using the RSM-GL model ..."	Concur. Text has been updated in Section 4.5.1.1 of the Final EA.
South Florida Water Management District	June 22, 2020	65	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 7. Section 4.5.1.1 ALTB2, page 4-35, second paragraph, last sentence reads: "The existing groundwater monitoring wells located east of the C-357 western perimeter levee ..." should read as "The existing groundwater monitoring wells located east of the 8.5 Square Mile Area western perimeter levee ..."	Concur. Text has been updated in Section 4.5.1.1 of the Final EA.
South Florida Water Management District	June 22, 2020	66	CEPP South EA Appendix D Pertinent Correspondence.pdf, page 13 (section 4.1 CEPP SOUTH PLAN FEATURES) In the first paragraph, it should be noted that these are only the AM options pertinent to contract 1. Additional AM tests have been recommended to the CEPP-S team by the DPM science team, including spreader swales downstream of culverts to dissipate excessive velocities and methods to reduce canal-flow. The tests are described in greater detail in the attached pdf. attached: DPM_RECOVER_Discussion_Apr 15 2020.pdf	The referenced text is in the CEPP South BA that was provided to the USFWS on January 23, 2020 and therefore cannot be edited at this time as consultation has concluded.
South Florida Water Management District	June 22, 2020	67	In the document "CEPP South EA Appendix D Pertinent Correspondence.pdf", p. 95 (Table 8. Summary of cumulative effects), the text does not mention the sediment P-enrichment documented in the DPM study observed in areas downstream of the S-152 culvert and downstream of the L-67C levee gap (adjacent to the unfilled canal) (Saunders, 2020; Sklar, 2018 and 2019) Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2018 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2019 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	The referenced text is in the CEPP South BA that was provided to the USFWS on January 23, 2020 and therefore cannot be edited at this time as consultation has concluded.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	68	p. 2-16 (last paragraph) Please provide additional details regarding how the coordination of the DPMST and CEPP AM team is to occur. Also, is this team to address CEPP-S issues that go beyond the optimal time and duration of structure operations or is it expected to address additional uncertainties associated with CEPP-S and ecological responses in the areas affected (i.e., the Blue Shanty Flowway, Shark Slough/ENP)?	The Corps currently coordinates with the SFWMD DPM Science team on a weekly basis as it relates to CEPP South implementation. These meetings are expected to continue to occur, with expanded external agency invites/participation, and provide a forum for scientific and operational input. The EA text from Section 2.3.5, repeated for reference, is sufficient for purposes of the NEPA and DPOM, providing a concise summary of the protocols for stakeholder input and operational decisions: "The scientific tests, including utilization of the new CEPP South features, will continue to be carefully de-signed in coordination between the DPM Science Team and the CEPP AM team, to ensure that test results are of significant value to future Everglades' restoration efforts. The integrated DPM Science Team and CEPP AM team will be comprised of scientists and hydrologists from the Corps, SFWMD, Miccosukee Tribe of Indians of Florida, FWC, U.S. Geological Survey (USGS), USFWS, and ENP, representing a continuation of the established DPM coordination process. The interagency coordination process will continue to be re-fined concurrent with the construction of the S-631, S-632, S-633, and associated CEPP South Contract 1 features, with the construction schedule presently anticipated to extend through at least the end of Fiscal Year 2022. Based on review of the data and conditions, and consideration of the operational constraints, the integrated DPM Science Team and CEPP AM team will exchange information relevant to the optimal time and duration for interim operations in order to meet project objectives. The DPM Science Team and CEPP AM Team will coordinate with the Corps Water Management Section staff regarding gate operations of S-152, S-631, S-632, S-633, and the L-29 temporary pumps." Expanded text has also been added to Section 4.22 of the EA "Environmental Commitments."
South Florida Water Management District	June 22, 2020	69	P. 4-69, paragraph 3 Recent evidence from the DPM study shows that under current operations of the S-152, marsh impacts may include sediment P-enrichment downstream of the S-152 culvert and downstream of degraded levee areas adjacent to sections of unbackfilled canal, where velocities are greatest (typically >5-15+ cm/s) (Saunders, 2020; Sklar 2018 and 2019). The DPM science team suggests that some modifications such as active vegetation management, operational changes or mechanisms to dissipate energy and high flows could be tested to evaluate how to reduce such impacts. References: Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2018 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2019 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	Appropriate changes have been made in the Final EA.

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South Florida Water Management District	June 22, 2020	70	Page 4-81 (Table 4-15) – row 3 "Proposed Action" Note that operations of the S-63x structures should be considered preliminary rather than directly utilizing "the current S-152 operational constraints." Under present operations of the S-152, DPM findings show the potential for downstream impacts (Saunders, 2020; Sklar, 2018 and 2019). Use of Adaptive Management strategies or refinements of the existing S152 operating criteria (as new data are collected and analyzed) may be needed to avoid those impacts. References: Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2018 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2019 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	71	p. 2-15 - paragraph 2 recommend changing "over draining WCA 3A" to "over draining northern WCA 3A"	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	72	p. 2-15 paragraph 2: Note the S-152 operational criteria (for opening, keeping open, closing) are slightly oversimplified in the current document. Operational triggers for S-152 have also been periodically revised to accommodate new statistical relationships. Operational triggers for the S-63x features should be considered preliminary, and may need some refinement due to the variability (typically a slight north to south gradient) in canal water TP.	Information on the DPM operational strategy is incorporated by reference into the current document. Text has been added to direct the reader to prior documentation for additional detail.
South Florida Water Management District	June 22, 2020	73	Table 1 Summary of the Effects of the Preferred Plan- Should water supply be on this table?	The referenced table in the CEPP South FONSI is consistent with the template that the Corps is required to use. No further edits to Table 1 are proposed.
South Florida Water Management District	June 22, 2020	74	Page 1-2- Can't read the small text under the picture boxes on the right side- a little blurry	Noted.
South Florida Water Management District	June 22, 2020	75	Page 1-3 spacing at end of first paragraph 2nd to last sentence- needs to be corrected	The referenced formatting has been reviewed.
South Florida Water Management District	June 22, 2020	76	Page 1-14 second bullet should say reductions caused not cause	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	77	Page 2-6 – first bullet- missing reference or incomplete sentence	The referenced text has been reviewed. No missing reference or incomplete sentence has been found.
South Florida Water Management District	June 22, 2020	78	Page 2-22- salt water intrusion can also affect agricultural and urban uses such as irrigation; not just public water supply- you say this on page 2-23 but not 2-22?	The referenced section is meant to be a concise summary of Sections 4.5.1 and 4.5.2. These sections should be referenced for further information. No further edits are proposed.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
South Florida Water Management District	June 22, 2020	79	Page 2-22- Do we want to put a foot (stages or elevations) differences in these or just percentages? I know this is the model evaluation but we do mention later on that Alternative B4 - the chosen operational plan does not fall below or falls below at a minimal amount from the CSB2027 (less than 0.1 feet) in order to ensure no impact to water supply of existing legal users and saline water intrusion will not occur	The referenced section is meant to be a concise summary of Sections 4.5.1 and 4.5.2. These sections should be referenced for further information. No further edits are proposed.
South Florida Water Management District	June 22, 2020	80	Page 4-53, Section 4.5.2.1 ALTB2- shallow does not need to be capitalized	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	81	Page 4-53, Section 4.5.2.1 ALTB2- shouldn't this say Only model-based shallow- delete "The"	Concur. Section 4.5.2.1 has been revised as recommended.
South Florida Water Management District	June 22, 2020	82	Page 4-54 second paragraph- first sentence needs reworking. Maybe say "The primary RSM-GL model results were evaluated for effects to agricultural or urban water supply and to determine the volume and/or frequency of cutbacks that are applicable to the Lower East Coast Service Areas (LECSAs)."	The RSM-GL model outputs for volume and frequency of cutbacks were the primary results used to evaluate effects to water supply. Statement has been revised to improve clarity.
South Florida Water Management District	June 22, 2020	83	Page 4-54- change text to ALTB2 shows the least change in WCA 3A (0.1 to 0.25 feet lower than CSB2027) for 1989 dry year and same amount of decrease or lower (0.1 to 0.5 feet) than other alternatives for the 2001 dry year	Concur. Section 4.5.2.1 has been revised as recommended.
South Florida Water Management District	June 22, 2020	84	Page 4-54 – change text to NC ENP- ALTB3 shows a reduction in water levels in the southern portion of WCA 2 (0.1 to 0.25 feet lower for 1989 dry year) and the largest improvement in North Central (NC) ENP (0.1 to 1.0 foot higher than CSB2027 for 1989 dry year).	Concur. Section 4.5.2.1 has been revised as recommended.
South Florida Water Management District	June 22, 2020	85	Table 4-11 Page 4-55- ALTB1 1989- WCA 3B should be 0.1 to 0.25 higher; change to 0.25 higher Alt B1-2001- LECSA1 shows 0.1-0.25 feet higher and 0.5- 1 foot lower- very small areas near border between LECSA1 and LECSA2; LECSA2 should be 0.1 to 0.5 feet lower; NE ENP ranges from 0. 1 to 0.5 feet higher and 0.1 to 0.5 feet lower	Concur. Table 4-11 has been revised as recommended.
South Florida Water Management District	June 22, 2020	86	Table 4-11 Page 4-55- ALT B2 2001 stage difference maps- 2 very small yellow areas In W portion of WCA-3 that are 0.25 to 0.5 feet lower and some areas that are 0.1 to 0.25 feet lower- edit table to say 0.1-0.5 feet lower	Table 4-11 narrative from the Draft EA is representative of the overall performance trends for WCA 3.
South Florida Water Management District	June 22, 2020	87	Table 4-11 Page 4-55 change 1989 ALTB3 NE ENP to 0.25 to 1.0 feet lower; 2001 ALTB3 change WCA 3 to 0.1 to > 1.0 feet lower	Concur. Table 4-11 has been revised as recommended.
South Florida Water Management District	June 22, 2020	88	Page 4-55 Section 4.5.2.2 ALTB4- 2nd sentence change "form" to "from"	The referenced text has been edited.
South Florida Water Management District	June 22, 2020	89	Page 4-57 Figure heading should say 1989 not 2001	The figure caption has been corrected in the Final EA.

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
State Clearinghouse	June 24, 2020	90	<p>Florida State Clearinghouse staff has reviewed the proposal 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.</p> <p>The Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission and the South Florida Water Management District have reviewed the proposed action and independently submitted comments for your consideration. These have been attached to this letter and are incorporated hereto.</p> <p>The Florida Department of Transportation offers the following comments: 1. Any work proposed within the FDOT Right of Way will require an FDOT Permit or other type of Agreement to work within the FDOT Right of Way. 2. The drainage unit has compiled the following comments based on our review of the Central Everglades Planning Project South Environmental Assessment and Proposed Finding of No Significant Impact (EA FONSI) Report, as it relates to Tamiami Trail from an operations standpoint. Comment on Appendix A - Draft Project Operating Manual Version 2.0 (Updated May 2020): Section 5.10 Release Capacity Across The Eastern Side Of Tamiami Trail (L-67 TO L-30) does not seem to be updated to reflect that the MWD Tamiami Trail Modifications (TTM) project, including construction of the one mile bridge and Tamiami Trail roadway reconstruction/resurfacing to allow for the maximum operating stage in the L-29 canal to be raised from 7.5 feet to a maximum of 8.5 feet, NGVD, was completed in December 2013. 2. Potential effects on FDOT, District 6 facilities and infrastructure are not anticipated as the 90-day constraint for the L-29 canal was retained for all CEPP South alternatives. The recent and planned improvements to Tamiami Trail were designed to accommodate CEPP. As indicated in the EA/FONSI, Table 1 Summary of Potential Effects of the Preferred Plan, Public infrastructure is a "Resource unaffected by action".</p> <p>Based on the information submitted and minimal project impacts, the state has no objections to the subject project and, therefore, it is consistent with the Florida Coastal Management Program (FCMP). Thank you for the opportunity to review the proposed project. If you have any questions or need further assistance, please don't hesitate to contact me at (850) 717-9076.</p>	<p>The Corps acknowledges that any work proposed within the FDOT Right of Way will require an FDOT Permit or other type of Agreement to work within the FDOT Right of Way, and coordination with FDOT is ongoing for CEPP South design efforts associated with S-356 and the S-355W. Section 5.10 of the Draft DPOM included outdated information inadvertently retained from the 2014 CEPP Final PIR/EIS (originally compiled in 2012). This section of the DPOM was updated to reflect the current Tamiami Trail roadway status per the 2020 COP Water Control Plan and to include a current status and schedule for the DOI Tamiami Trail Next Steps Phase 2 implementation.</p>
Florida Department of Environmental Protection	June 24, 2020	91	<p>The Central Everglades Planning Project (CEPP) was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District (SFWMD). The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively.</p> <p>This CEPP South Environmental Assessment (EA), dated May 2020, addresses the construction and interim operations of features associated with the CEPP South Contract 1 in Broward and Miami-Dade counties, Florida. The EA evaluates various alternatives to achieve identified project objectives and constraints, including compliance with the 2014 CEPP Chief's Report and Savings Clause requirements in the study area.</p>	<p>Thank you for your comments. See response to specific comments below.</p>

Commenter	Date Comment Received	Comment ID#	Comment	U.S. Army Corps of Engineers (Corps) Response
Florida Department of Environmental Protection	June 24, 2020	92	<p>On April 24, 2020, the Department received an application from the Corps for CEPP South Contract 1, which included construction of three gated, 500-cfs spillways in the L-67A levee, removing existing spoil mounds west of the L-67A borrow canal where the structures will be built, and degrading the L-67C at one location to create a 3,000-foot gap, and backfilling of the East-West Agricultural Canal. The Department issued a Request for Additional Information to the Corps on May 29, 2020.</p> <p>Under the preferred alternative, ALTB4, the S-631, S-632, and S-633 structures will be operated within the current limits of the S-152 operating permit (CERPRA Permit Number 0369865-001) for total phosphorus concentration. Please provide additional information in the EA regarding the operations of the temporary pumps and anticipated outflow water quality to provide reasonable assurance that these outflows will not cause or contribute to violation of State water quality standards. The Department notes that the water quality issues associated with operations of S-333N and other structures that are part of CEPP South are not included as part of this EA.</p> <p>There is reference to the Department's permit for S-333N, that operations will be limited to the permit requirements, and to the development of regional operation plans. The EA should include a commitment that the water quality issues identified for inflows to North East Shark River Slough will be appropriately addressed.</p>	Revised Final EA to indicate water quality would be monitored at the culverts and temporary pumps. Operation of the culverts under the S-152 constraints limits the phosphorus concentrations going into the marsh, which is consider protective of the downstream water quality. Additionally, as discussed in Section 4.10 (p. 4-69), flow through the marsh and increased hydroperiods is expected to be beneficial to water quality entering SRS and ENP. The POM describes operations of the temporary pumps. Pump operations would be coordinated with the monitoring team.
Florida Department of Environmental Protection	June 24, 2020	93	<p>Specific Comment:</p> <p>Pages 1-10 and 1-16: Please correct typographical errors of the permit number (0304870-008 should be 0304879-008).</p>	Correction has been made in the Final EA.
Florida Department of Environmental Protection	June 24, 2020	94	The Department is supportive of the Central Everglades Planning Project South Project, sincerely appreciates the opportunity to comment, and looks forward to continuing our partnership with the Corps and SFWMD. Should you have any questions regarding our comments, please contact Ed Cambeiro at (850) 245-3176.	Thank you for your comments.

## Nasuti, Melissa A CIV USARMY CESAJ (USA)

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**From:** Stahl, Chris <Chris.Stahl@dep.state.fl.us>  
**Sent:** Wednesday, June 24, 2020 4:33 PM  
**To:** Nasuti, Melissa A CIV USARMY CESAJ (USA)  
**Cc:** State\_Clearinghouse; 'FWC Conservation Planning Services'; Cambeiro, Ed; Koptak, Haley  
**Subject:** [WARNING: A/V UNSCANNABLE][Non-DoD Source] State Clearance Letter for FL202005158949C- Environmental Assessment And Proposed Finding Of No Significant Impact Central Everglades Planning Project South: Interim Operations Broward And Miami-Dade Counties...  
**Attachments:** CLH Memo Final\_CEPP South-EA.pdf; CEPP South Interim Operations EA\_41791\_06052020.pdf; CEPP South EA Clearinghouse06-22-20.pdf; CEPP South Draft EA\_SFWMD Comments.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

June 24, 2020

Melissa A. Nasuti

U.S. Army Corps of Engineers

Jacksonville District, Planning Division

P. O. Box 4970

Jacksonville, Florida 32232-0019

RE: Department of the Army, Jacksonville District Corps of Engineers - Environmental Assessment and Proposed Finding of No Significant Impact Central Everglades Planning Project South: Interim Operations Broward and Miami-Dade Counties, Florida

SAI # FL202005158949C

Dear Melissa:

Florida State Clearinghouse staff has reviewed the proposal 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, Florida Fish and Wildlife Conservation Commission and the South Florida Water Management District have reviewed the proposed action and independently submitted comments for your consideration. These have been attached to this letter and are incorporated hereto.

The Florida Department of Transportation offers the following comments: 1. Any work proposed within the FDOT Right of Way will require an FDOT Permit or other type of Agreement to work within the FDOT Right of Way. 2. The drainage unit has compiled the following comments based on our review of the Central Everglades Planning Project South Environmental Assessment and Proposed Finding of No Significant Impact (EA FONSI) Report, as it relates to Tamiami Trail from an operations standpoint. Comment on Appendix A - Draft Project Operating Manual Version 2.0 (Updated May 2020): Section 5.10 Release Capacity Across The Eastern Side Of Tamiami Trail (L-67 TO L-30) does not seem to be updated to reflect that the MWD Tamiami Trail Modifications (TTM) project, including construction of the one mile bridge and Tamiami Trail roadway reconstruction/resurfacing to allow for the maximum operating stage in the L-29 canal to be raised from 7.5 feet to a maximum of 8.5 feet, NGVD, was completed in December 2013. 2. Potential effects on FDOT, District 6 facilities and infrastructure are not anticipated as the 90-day constraint for the L-29 canal was retained for all CEPP South alternatives. The recent and planned improvements to Tamiami Trail were designed to accommodate CEPP. As indicated in the EA/FONSI, Table 1 Summary of Potential Effects of the Preferred Plan, Public infrastructure is a "Resource unaffected by action".

Based on the information submitted and minimal project impacts, the state has no objections to the subject project and, therefore, it is consistent with the Florida Coastal Management Program (FCMP). Thank you for the opportunity to review the proposed project. If you have any questions or need further assistance, please don't hesitate to contact me at (850) 717-9076.

Sincerely,

Chris Stahl

Chris Stahl, Coordinator

Florida State Clearinghouse

Florida Department of Environmental Protection

3800 Commonwealth Blvd., M.S. 47

Tallahassee, FL 32399-2400

ph. (850) 717-9076

State.Clearinghouse@floridadep.gov <mailto:State.Clearinghouse@floridadep.gov>

<Blocked<http://survey.dep.state.fl.us/?refemail=Chris.Stahl@dep.state.fl.us>>



## SOUTH FLORIDA WATER MANAGEMENT DISTRICT

June 22, 2020

Mr. Chris Stahl  
Florida department of Environmental protection  
Florida State Clearinghouse  
2600 Blairstone Road, MS 47  
Tallahassee, FL 32399-2400

**Subject: Central Everglades Planning Project South, Draft Environmental Assessment and Proposed Finding of No Significant Impact**

Dear Mr. Stahl,

Thank you for the opportunity to comment on the Draft Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for proposed construction and interim operations of features of the Central Everglades Planning Project (CEPP) South. The South Florida Water Management District (District) is authorized to act as the non-Federal sponsor for Comprehensive Everglades Restoration Plan (CERP) projects and has been heavily involved in the planning, design and construction of these projects. The District has provided technical support and resources throughout the development of the CEPP South to ensure project objectives have been met and commends the U.S. Army Corps of Engineers (USACE), Jacksonville District for the preparation of the Draft EA and Proposed FONSI.

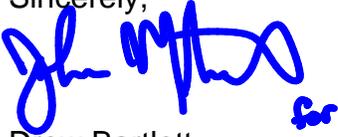
The Draft EA and Proposed FONSI are consistent with the goals and objectives of the CEPP South and the CERP. The CEPP South will provide the conveyance features needed to deliver and distribute existing water and the additional flows provided by the EAA Reservoir from Water Conservation Area 3A to Water Conservation Area 3B and Everglades National Park (ENP). These additional flows will provide ecological benefits to the Central Everglades including restoration of vegetative communities, improved hydroperiods and increased flows to Northeast Shark River Slough in ENP.

In accordance with the National Environmental Policy Act (NEPA), the Draft EA and Proposed FONSI properly evaluate environmental effects associated with the CEPP South Contract 1 features and interim operations. The District generally supports the USACE' Draft EA and the Proposed FONSI for the Central Everglades Planning Project South. We recognize the preferred alternative, ALTB4, which includes the S-631, S-632 and S-633 structures, will be operated consistent with the current limits of the S-152 structure. However, the District requests additional information be provided in the EA regarding the operations of the temporary pumps and any effects to water quality from the preferred alternative. Additional comments on the Draft EA documents are attached.

Mr. Chris Stahl  
June 22, 2020  
Page 2

The District looks forward to continuing momentum on this critical component to the CERP program and is proud to partner with the USACE on construction of the Central Everglades Planning Project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Drew Bartlett" with a stylized flourish at the end.

Drew Bartlett  
Executive Director

DB/lw

CEPP South DRAFT EA & FONSI  
SFWMD Review Comments & Attachments

ReviewName	Comment Type	sheet	commentText	attachment	createdBy	CoordinatingDiscipline
EA and Proposed FONSI	Editorial	1-3	Within Table 1-1, which straddles pages 1-3 and 1-4, it appears as if the descriptor for "CEPP South" appears to have been omitted.		John Shaffer	Environmental/Permit Compliance
EA and Proposed FONSI	Editorial	1-6	On page 1-6, the western limit of the OTT removal appears to have been described as "the tram road". It is unclear where Tram Road is. Suggest replacing "tram road" with something that describes a point approximately 0.25 miles east of Shark Valley Loop Road.		John Shaffer	Environmental/Permit Compliance
EA and Proposed FONSI	Editorial	1-7	On page 1-7 where it talks about the S-333N "would be constructed..", suggest replacing that with "is being constructed.."		John Shaffer	Environmental/Permit Compliance
EA and Proposed FONSI	Editorial		Although many occurrences refer to the aggregate complex at S-333 as "S-333/S-333N" and recognizing that it would appear to be inappropriate to do a wholesale substitution, it is suggested that [because it is being constructed] wherever possible (e.g. when used for east or west geographical reference points) "S-333/S-333N" be used.		John Shaffer	Environmental/Permit Compliance
EA and Proposed FONSI	Editorial		Within the row for CERP Projects within table 4-14, for this occurrence, it appears as if "S-333N" should read "S-333".		John Shaffer	Environmental/Permit Compliance
EA and Proposed FONSI	Editorial		The footer for Appendix A incorrectly identifies it as Annex C.		John Shaffer	Environmental/Permit Compliance
Appendix A	Comment	C-12	Within Appendix A, within the description for S-333N (page C-21), "under which S-333N is only operated under Emergency Limited Operations for WCA-3 High Water Relief in a accordance with prescribed conditions" should be removed as the District has applied to FDEP for a permit modification to allow S-333 to be used interchangeably and/or together with S-333 to achieve S-333's purposes.		John Shaffer	Environmental/Permit Compliance
Appendix A	Comment		Within Appendix A subsection 5.10, suggest removal of the parenthetic "design capacity of 1,350 cfs) in light of the District's recent permit modification request, because it appears unique to this structure, and because [independent of the modification] would appear to have a limited "shelf life".		John Shaffer	Environmental/Permit Compliance
Appendix A	Editorial		Within Appendix A, recognizing that it would appear to be inappropriate to do a wholesale substitution, it is suggested that [because it is being constructed] wherever possible (e.g. when used for east or west geographical reference points) "S-333/S-333N" be used.		John Shaffer	Environmental/Permit Compliance
Appendix B	Comment		Within Appendix B, under Chapter 373, it states that SFWMD is the agency responsible for implementing this statute. While this is true for some projects, for CERP projects, FDEP is the responsible entity.		John Shaffer	Environmental/Permit Compliance
EA and Proposed FONSI	Editorial	1-9	on page 1-9 (section 1.3.2.), end of 1st paragraph reads: "The DPM is designed to provide information regarding the effects of levee removal and canal backfill on the ridge and slough landscape." Recommend changing this to: "The DPM is designed to provide information regarding the ecological benefits of sheetflow restoration and effects of levee removal and canal backfill on the ridge and slough landscape." paragraph 2 reads: "Three 1,000-foot backfill treatments (no backfill, partial backfill and complete backfill) are located within the L-67C canal, adjacent to and directly east of the S-152 structure." Recommend changing to: "Three 1,000-foot backfill treatments (no backfill, partial backfill and complete backfill) are located within the L-67C canal approximately 9,000-ft south-southeast of the S-152 structure on the L-67A levee."		Colin Saunders	DPM
EA and Proposed FONSI	Editorial	2-9	p. 2-6 (Section 2.2 CEPP South Adaptive Management Features) 3rd bullet point labelled "Active Vegetation Management" Sentence reads: "Active vegetation management of these sloughs, combined with backfill of the east-west remnant agricultural ditch and spoil pile removal, is expected to redirect more flow toward the natural orientation (south) of the landscape and to increase the areal extent of sheetflow in the Blue Shanty levee." Recommend revising as follows: "Active vegetation management of these sloughs, combined with backfill of the east-west remnant agricultural ditch and spoil pile removal, is expected to increase the areal extent of sheetflow in the Blue Shanty levee and to redirect more flow toward the natural orientation (south) of the landscape, rather than to the east."		Colin Saunders	DPM
EA and Proposed FONSI	Editorial	2-10	on page 2-10 Recommend changing: "The proposed temporary pumps would be utilized as an interim measure to improve the southerly flow conveyance towards the L-29 canal, complementing the active vegetation management within the Blue Shanty Flowway and initiating transition of the Flowway towards the CEPP planned endstate." Recommend revising to: "The proposed temporary pumps would be utilized as an interim measure to enhance and redirect flow south towards the L-29 canal (rather than to the east), complementing the active vegetation management within the Blue Shanty Flowway and initiating transition of the Flowway towards the CEPP planned endstate."		Colin Saunders	DPM

EA and Proposed FONSI	Editorial	2-16	on p. 2-16 recommend changing the text: "(a) support continued scientific tests and scientific data collection related to the ecological effects of backfilling canals and modifying levees, consistent with the DPM Phase 2 field test, while maintaining the COP project objectives and providing enhanced sheetflow within WCA 3B" Recommend revising to: "(a) support continued scientific tests and scientific data collection related to the ecological benefits, and potential risks, of enhanced sheetflow, backfilling canals and modifying levees, consistent with the DPM Phase 2 field test, while maintaining the COP project objectives and providing enhanced sheetflow within WCA 3B"	Colin Saunders	DPM
EA and Proposed FONSI	Editorial	1-16	p. 1-16 (section 1.10 Permits, Licenses and Entitlements) Recommend replacing this sentence: "A large-scale active management study was initiated to reconnect sloughs (up to 2 km from S-152) that have been encroached by sawgrass for purposes of evaluating the degree to which active management can increase the extent of sheetflow and restoration of sloughs under the DPM." With the following: "As part of the DPM field test, a large-scale active management study was initiated to reconnect sloughs (up to 2 km from S-152) that have been encroached by sawgrass. The objectives of this study were to evaluate the degree to which active management can increase the spatial extent of sheetflow and slough habitats, and to redirect flow south, in alignment with historic landscape patterning, rather than east (preliminary results provided in Sklar, 2020)." Reference: Sklar, F.H. (ed.). 2020. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	Colin Saunders	DPM
EA and Proposed FONSI	Editorial	2-9	on page 2-9, the location of the S633 gap in the figure appears to be different than the location provided by the DPM science team. The location should be moved slightly north so it overlaps and aligns with the Active Vegetation Management area (blue shading).	Colin Saunders	DPM
EA and Proposed FONSI	Editorial	2-16	on page 2-16, After the text: "The scientific tests, including utilization of the new CEPP South features, will continue to be carefully designed in coordination between the DPM Science Team and the CEPP AM team, to ensure that test results are of significant value to future Everglades' restoration efforts." Recommend adding the following: "Following appropriate review, the recommendations from DPM Science Team and CEPP AM Team should be integrated into CEPP-S project planning and implementation."	Colin Saunders	DPM
EA and Proposed FONSI	Comment	4-69	related to Sulfur-loading discussed on page 4-69, paragraph 4. It is uncertain how much loading through the S-63x structures will occur. The loading likely depends on the ability to re-establish marsh-to-marsh connectivity via spoil bank removal west of the L-67A canal.	Colin Saunders	DPM
Appendix A	Comment	C-51	in document "CEPP South EA Appendix A Draft Project Operating Manual May2020.pdf", on p. C-51 (7.3 WATER QUALITY), there is some mention that adaptive management is to be integrated into CEPP. Please provide more specific details on how this integration of adaptive management will be implemented, how it will be ensured that actionable recommendations from the DPM and CEPP AM Teams will be integrated into CEPP project scope and sequencing.	Colin Saunders	DPM
Appendix A	Comment	C-56	in document "CEPP South EA Appendix A Draft Project Operating Manual May2020.pdf", on page C-56. It states operating criteria of S-63x structures may be modified with approval by the USACE and the SFWMD that results from CERP updates and/or recommendations from the adaptive assessment process as outlined in draft GM #6, Section 6.3.1." How will Adaptive Management recommendations that are not just about operations of structures be incorporated into CEPP? For example, how would recommended constructed fixes be implemented (e.g., adding energy dissipators downstream of culverts to prevent scouring or excessive P-loading and P-enrichment? Incorporating measures to reduce or blocking L-67C canal flow to enhance marsh-to-marsh connectivity)? What is the process to incorporate these types of adaptive management recommendations?	Colin Saunders	DPM

Appendix C	Comment	20	In document "CEPP South EA Appendix C Clean Water Act 404(B)(1) Evaluation.pdf", p.20 (section 1.8.6 Suspended Particulate/Turbidity Determinations) states "Longer-term impacts to water quality not associated with fill and associated with the operation of project features will be addressed through operational monitoring and adaptive management actions, if potentially adverse effects are observed or predicted." Can the adaptive management actions be elaborated on? For example, DPM findings show evidence of sediment P-enrichment associated with areas of excessive velocities (>3-15 cm/s) and downstream of degraded levee areas adjacent to unbackfilled canals (Saunders, 2020; Sklar 2018 and 2019). These findings imply that energy dissipation downstream of culverts or mechanisms to block or slow canal-flow may be needed to reduce P-loading around these areas where sediment P-enrichment is occurring. Would these two active measures be consistent with the AM actions referred to in the text? References: Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	Colin Saunders	DPM
Appendix D	Comment	10	In document "CEPP South EA Appendix D Pertinent Correspondence.pdf", p. 10 (4.1 CEPP SOUTH PLAN FEATURES): Recommend changing the sentence: "These data therefore provide a useful example of stage changes within WCA 3B expected from the proposed CEPP culvert discharges." To the following: "These data therefore provide a useful example of stage changes within WCA 3B expected from the proposed CEPP culvert discharges, but with the caveat that they do not include effects absence of any active vegetation management measures that redirect flow (and by inference stage increases to some degree) south instead of east (Sklar, 2020)." Reference: Sklar, F.H. (ed.). 2020. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	Colin Saunders	DPM
EA and Proposed FONSI	Editorial	1-2	Figure 1-1 Editorial: Figure implies that WCA1 and WCA2 are part of CEPP study area, but description in 1.3.1 does not include these areas in description. Consider including how WCA1 and WCA2 are considered as part of the CEPP Study Area in 1.3.1.	Scott Thourot	General
EA and Proposed FONSI	Comment	2-7	Whole page. Please ensure that the L-29 Canal temporary Pumps do not interfere with ease of travel and access for monitoring existing structures. How will access be guaranteed?	Scott Thourot	General
EA and Proposed FONSI	Editorial	2-9	Fig. 2.3. Editorial: Figures 2.2 and 2.3 illustrate different phases or alternatives of the L67 degrade versus temporary pumps proposed,. Furthermore, Figure 2.3 is referenced both in the sections describing AltB2 (for vegetation management) and ALTb4 (for temporary pumps). This adds to confusion of what alternative this document is attempting to describe. Suggest including the appropriate ALTb2, ALTb4, or phase designation in the Figure titles and when referencing those in the report text. Figure 2-3. Clarify location of potential active marsh improvement in the Blue Shanty Flowway in WCA3B with potential location of temporary pumps (ALTb4) located north of the L-29 canal.	Scott Thourot	General
Appendix D	Comment	11	in document "CEPP South EA Appendix D Pertinent Correspondence.pdf" p. 11, paragraph 1, it should be noted that models did not incorporate the effects of large-scale active vegetation management, which may to some degree redirect flows (and by inference stage increases) south rather than east, as shown in DPM (Sklar, 2020) Reference: Sklar, F.H. (ed.). 2020. Chapter 6: Everglades Research and Evaluation. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.	Colin Saunders	DPM
EA and Proposed FONSI	Editorial	3-2	Section 3.4. Editorial: Section concerns Study Area Land Use, first section describes area of the project in the Everglades, second section goes into land use of the LEC. Which of these is the study area? If both paragraphs are needed reverse the order going from larger general areas to smaller more specific one	Scott Thourot	General
EA and Proposed FONSI	Comment	4-72	Section 4.16. This section is on Cultural Resources. How would this project impact access to the Valu-Jet Memorial?	Scott Thourot	General
EA and Proposed FONSI	Comment	2-7	line 23+/- Note for future monitoring and water quality assessment: "Sumps" to facilitate discharge from a marsh area, here specifically related to temporary pumps, can be an area prone to collecting high nutrient concentrations as water levels recede from the marsh. Consideration of local effects on TP concentrations should be made when establishing methodologies to evaluate water quality. Localized and potentially temporary concentration effects in these areas should not be overemphasized when incorporated to any water quality assessment methodology. See also Water Quality section comment Section 4.10.	Scott Thourot	Water Quality

EA and Proposed FONSI	Editorial	3-13	Paragraph 3. Editorial: This section states: "FDEP has recently established surface water quality numeric nutrient criteria for all Florida waterbodies." Not all waterbodies in South Florida have numeric nutrient criteria established, for example: South Florida Canals.		Scott Thourot	General
EA and Proposed FONSI	Editorial	3-14	Paragraph 3. Editorial: Consider updating language related to sulfur reducing bacteria and mercury. See attached suggested edits.	FONSI_Mercury_and_Sulfate21.docx	Scott Thourot	General
EA and Proposed FONSI	Comment	4-13	Table 4-4. Why is the S-152 structure flow not in ALTB2 culverts flow into Blue Shanty Flowway in Table 4-4? Acknowledgement of this limitation on modeling performed or the reasoning for the differing assumptions should be documented. Currently, these tables promote confusion on what alternative(s) are being presented in this document.		Scott Thourot	General
EA and Proposed FONSI	Comment	4-13 and 4-29	Table 4-4. Historic operational constraints based upon water quality are factored in the AltB4 S-152 monthly flows in Table 4-5, but these same considerations are not made for AltB2 flows at S-632 and S-633 culverts in Table 4-4. Acknowledgement of this limitation on modeling performed or the reasoning for the differing assumptions should be documented. Currently, these tables promote confusion on what alternative(s) are being presented in this document.		Scott Thourot	General
EA and Proposed FONSI	Comment	4-30	Table 4-5. It is not clear how the average monthly flow of 153 cfs was determined for structure S-152. Recalculate average and provide corrected value... or explain the calculation methodology with the months included/excluded from the average and the reasoning behind this or recalculate the average.		Scott Thourot	General
EA and Proposed FONSI	Editorial	4-30	Table 4-5. Editorial: Table 2-1 indicates that the S-152 DPM structure provides operational flexibility but was "not modeled". If this is true, from where are the monthly flows in Table 4-5 derived? Should Table 2-1 instead indicate that S-152 was only modeled for CSB2027?		Scott Thourot	General
EA and Proposed FONSI	Editorial	4-69	SRB P2 & P4. Editorial: Consider updating language related to sulfur reducing bacteria and mercury. See attached suggested edits.	FONSI_Mercury_and_Sulfate21.docx	Scott Thourot	General
EA and Proposed FONSI	Comment		The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. General Comments: 1. Schematics should accompany the description of the complicated water management within the study area. Especially in sections 3.5 & 3.6, describe the hydrology & operations in different parts of the system with sufficient illustrations. Document, currently, does not make a single reference to any figure.		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Comment		The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. General Comments 2. The document contains several acronyms. A glossary is necessary for this type of document.		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Comment		The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. General Comments 3. Note that there was no explicit regional simulation (both rsmgl & mdrsm) run called "ALTB4". Some text in document (Section 2.3, 4th paragraph, page 2-11) initially mentioned this fact. Please reiterate in other parts of the document, especially towards the end, so that there will not be an expectation that an "ALTB4" modeling scenario was archived in some form or another. "Model" performance of ALTB4 is best professional judgement.		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Comment	2-22	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comments: 1. Section 2.4.1, page 2-22, 4th paragraph states that the RSM-GL model is primarily a surface water model. Please state that the RSM-GL model is a fully integrated surface and groundwater model whose conceptualization for this application was limited to the surficial aquifer only, and thus does not provide water levels below the Biscayne Aquifer.		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Editorial	3-3	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 2. Section 3.5.1, page 3-3, 3rd paragraph: "...into the dry season (November and December) ..." should say "...into the start of the dry season (November and December) ...".		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Editorial	3-3	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 3. Section 3.5.1, page 3-3, 4th paragraph: "When canal levels drop below..." should say "When coastal canal levels drop below..."		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Editorial	3-4	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 4. Section 3.5.1, page 3-4, 4th paragraph: "...are typically made from the Regional system." should say "...are typically made from the Regional system (WCAs and Lake Okeechobee).".		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Comment	3-5	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 5. Section 3.5.2, page 3-5, 3rd paragraph: "The Rocky Glades and Taylor Slough..." – Since these two areas are mentioned separately, what are their differences? What's their individual significance?		Yanling Zhao	Hydraulics
EA and Proposed FONSI	Editorial	4-33	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 6. Section 4.5.1.1 ALTB2, page 4-33, second paragraph, first sentence: Please add the model used to read: "The modeling of ALTB2 using the RSM-GL model ..."		Yanling Zhao	Hydraulics

EA and Proposed FONSI	Editorial	4-35	The SFWMD H&H Bureau review with focus on hydrologic modeling and flood risk management. Specific Comment 7. Section 4.5.1.1 ALTB2, page 4-35, second paragraph, last sentence reads: "The existing groundwater monitoring wells located east of the C-357 western perimeter levee ..." should read as "The existing groundwater monitoring wells located east of the 8.5 Square Mile Area western perimeter levee ..."	Yanling Zhao	Hydraulics	
Appendix D	Comment	13	CEPP South EA Appendix D Pertinent Correspondence.pdf, page 13 (section 4.1 CEPP SOUTH PLAN FEATURES) In the first paragraph, it should be noted that these are only the AM options pertinent to contract 1. Additional AM tests have been recommended to the CEPP-S team by the DPM science team, including spreader swales downstream of culverts to dissipate excessive velocities and methods to reduce canal-flow. The tests are described in greater detail in the attached pdf. attached: DPM_RECOVER_Discussion_Apr_15_2020.pdf	DPM_RECOVER_Discussion_Apr_15_2020.pdf	Colin Saunders	DPM
Appendix D	Comment	95	in the document "CEPP South EA Appendix D Pertinent Correspondence.pdf", p. 95 (Table 8. Summary of cumulative effects), the text does not mention the sediment P-enrichment documented in the DPM study observed in areas downstream of the S-152 culvert and downstream of the L-67C levee gap (adjacent to the unfilled canal) (Saunders, 2020; Sklar, 2018 and 2019) Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2018 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2019 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.		Colin Saunders	DPM
EA and Proposed FONSI	Comment	2-16	p. 2-16 (last paragraph) Please provide additional details regarding how the coordination of the DPMST and CEPP AM team is to occur. Also, is this team to address CEPP-S issues that go beyond the optimal time and duration of structure operations or is it expected to address additional uncertainties associated with CEPP-S and ecological responses in the areas affected (i.e., the Blue Shanty Flowway, Shark Slough/ENP)?		Colin Saunders	DPM
EA and Proposed FONSI	Comment	4-69	P. 4-69, paragraph 3 Recent evidence from the DPM study shows that under current operations of the S-152, marsh impacts may include sediment P-enrichment downstream of the S-152 culvert and downstream of degraded levee areas adjacent to sections of unbackfilled canal, where velocities are greatest (typically >5-15+ cm/s) (Saunders, 2020; Sklar 2018 and 2019). The DPM science team suggests that some modifications such as active vegetation management, operational changes or mechanisms to dissipate energy and high flows could be tested to evaluate how to reduce such impacts. References: Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2018 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2019 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.		Colin Saunders	DPM
EA and Proposed FONSI	Comment	4-81	Page 4-81 (Table 4-15) – row 3 "Proposed Action" Note that operations of the S-63x structures should be considered preliminary rather than directly utilizing "the current S-152 operational constraints." Under present operations of the S-152, DPM findings show the potential for downstream impacts (Saunders, 2020; Sklar, 2018 and 2019). Use of Adaptive Management strategies or refinements of the existing S152 operating criteria (as new data are collected and analysed) may be needed to avoid those impacts. References: Saunders, C.J. (ed.). 2020. Appendix 6-1: Decomp Physical Model Research. 2020 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2018. Chapter 6: Everglades Research and Evaluation. 2018 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.; Sklar, F.H. (ed.). 2019. Chapter 6: Everglades Research and Evaluation. 2019 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.		Colin Saunders	DPM
EA and Proposed FONSI	Editorial	2-15	p. 2-15 - paragraph 2 recommend changing "over draining WCA 3A" to "over draining northern WCA 3A"		Colin Saunders	DPM
EA and Proposed FONSI	Comment	2-15	p. 2-15 paragraph 2: Note the S-152 operational criteria (for opening, keeping open, closing) are slightly oversimplified in the current document. Operational triggers for S-152 have also been periodically revised to accommodate new statistical relationships. Operational triggers for the S-63x features should be considered preliminary, and may need some refinement due to the variability (typically a slight north to south gradient) in canal water TP.		Colin Saunders	DPM
EA and Proposed FONSI	Editorial		Please see attached edits.	Comments-CEPP_South_EA_and_Proposed_FONSI_	Yanling Zhao	Hydraulics
EA and Proposed FONSI	Comment		Table 1 Summary of the Effects of the Preferred Plan- Should water supply be on this table?		Nancy Demonstranti	
EA and Proposed FONSI	Editorial	1-2	Page 1-2- Can't read the small text under the picture boxes on the right side- a little blurry		Nancy Demonstranti	

EA and Proposed FONSI	Editorial	1-3	Page 1-3 spacing at end of first paragraph 2 <sup>nd</sup> to last sentence- needs to be corrected	Nancy Demonstranti
EA and Proposed FONSI	Editorial	1-14	Page 1-14 second bullet should say reductions caused not cause	Nancy Demonstranti
EA and Proposed FONSI	Editorial	2-6	Page 2-6 – first bullet- missing reference or incomplete sentence	Nancy Demonstranti
EA and Proposed FONSI	Comment	2-22	Page 2-22- salt water intrusion can also affect agricultural and urban uses such as irrigation; not just public water supply- you say this on page 2-23 but not 2-22?	Nancy Demonstranti
EA and Proposed FONSI	Comment	2-22	Page 2-22- Do we want to put a foot (stages or elevations) differences in these or just percentages? I know this is the model evaluation but we do mention later on that Alternative B4 - the chosen operational plan does not fall below or falls below at a minimal amount from the CSB2027 (less than 0.1 feet) in order to ensure no impact to water supply of existing legal users and saline water intrusion will not occur.	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-53	Page 4-53, Section 4.5.2.1 ALTB2- shallow does not need to be capitalized	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-53	Page 4-53, Section 4.5.2.1 ALTB2- shouldn't this say Only model-based shallow- delete "The"	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-54	Page 4-54 second paragraph- first sentence needs reworking. Maybe say "The primary RSM-GL model results were evaluated for effects to agricultural or urban water supply and to determine the volume and/or frequency of cutbacks that are applicable to the Lower East Coast Service Areas (LECSAs)."	Nancy Demonstranti
EA and Proposed FONSI	Comment	4-54	Page 4-54- change text to ALTB2 shows the least change in WCA 3A (0.1 to 0.25 feet lower than CSB2027) for 1989 dry year and same amount of decrease or lower (0.1 to 0.5 feet) than other alternatives for the 2001 dry year	Nancy Demonstranti
EA and Proposed FONSI	Comment	4-54	Page 4-54 – change text to NC ENP- ALTB3 shows a reduction in water levels in the southern portion of WCA 2 (0.1 to 0.25 feet lower for 1989 dry year) and the largest improvement in North Central (NC) ENP (0.1 to 1.0 foot higher than CSB2027 for 1989 dry year).	Nancy Demonstranti
EA and Proposed FONSI	Comment	4-55	Table 4-11 Page 4-55- ALTB1 1989- WCA 3B should be 0.1 to 0.25 higher; change to 0.25 higherAlt B1- 2001- LECSA1 shows 0.1-0.25 feet higher and 0.5- 1 foot lower- very small areas near border between LECSA1 and LECSA2; LECSA2 should be 0.1 to 0.5 feet lower; NE ENP ranges from 0. 1 to 0.5 feet higher and 0.1 to 0.5 feet lower	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-55	Table 4-11 Page 4-55- ALT B2 2001 stage difference maps- 2 very small yellow areas in W portion of WCA-3 that are 0.25 to 0.5 feet lower and some areas that are 0.1 to 0.25 feet lower- edit table to say 0.1-0.5 feet lower	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-55	Table 4-11 Page 4-55 change 1989 ALTB3 NE ENP to 0.25 to 1.0 feet lower; 2001 ALTB3 change WCA 3 to 0.1 to > 1.0 feet lower	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-55	Page 4-55 Section 4.5.2.2 ALTB4- 2 <sup>nd</sup> sentence change "form" to "from"	Nancy Demonstranti
EA and Proposed FONSI	Editorial	4-57	Page 4-57 Figure heading should say 1989 not 2001	Nancy Demonstranti

# Memorandum



**TO:** Chris Stahl, Florida State Clearinghouse

**THROUGH:** Edward C. Smith, Director  
Office of Water Policy and Ecosystems Restoration

**FROM:** Alyssa Gilhooly and Inger Hansen  
Office of Water Policy and Ecosystems Restoration

**DATE:** June 22, 2020

**SUBJECT:** U.S. Army Corps of Engineers, Jacksonville District — Environmental Assessment and Proposed Finding of No Significant Impact for the Central Everglades Planning Project South, Interim Operations, in Broward and Miami-Dade Counties, Florida

**SAI #:** FL202005158949C

## Summary:

The Central Everglades Planning Project (CEPP) was authorized by Section 1401(4)1 of the Water Resources Development Act (WRDA) of 2016, Public Law 114-322. Due to the size and complexity of CEPP, project implementation will involve the integration of multi-year construction through individual project partnership agreements (PPAs) or amendments to existing PPAs between the Corps and the South Florida Water Management District (SFWMD). The Corps plans to proceed with advertisement and award of the first construction contract for CEPP South in July and September 2020, respectively.

This CEPP South Environmental Assessment (EA), dated May 2020, addresses the construction and interim operations of features associated with the CEPP South Contract 1 in Broward and Miami-Dade counties, Florida. The EA evaluates various alternatives to achieve identified project objectives and constraints, including compliance with the 2014 CEPP Chief's Report and Savings Clause requirements in the study area.

## Comments:

On April 24, 2020, the Department received an application from the Corps for CEPP South Contract 1, which included construction of three gated, 500-cfs spillways in the L-67A levee, removing existing spoil mounds west of the L-67A borrow canal where the structures will be built, and degrading the L-67C at one location to create a 3,000-foot gap, and backfilling of the East-West Agricultural Canal. The Department issued a Request for Additional Information to the Corps on May 29, 2020.

Under the preferred alternative, ALTB4, the S-631, S-632, and S-633 structures will be operated within the current limits of the S-152 operating permit (CERPRA Permit Number 0369865-001) for total phosphorus concentration. Please provide additional information in the EA regarding the operations of the temporary pumps and anticipated outflow water quality to provide reasonable assurance that these outflows will not cause or contribute to violation of State water quality standards. The Department notes that the water quality issues associated with operations of S-333N and other structures that are part of CEPP South are not included as part of this EA.

There is reference to the Department's permit for S-333N, that operations will be limited to the permit requirements, and to the development of regional operation plans. The EA should include a commitment that the water quality issues identified for inflows to North East Shark River Slough will be appropriately addressed.

**Specific Comment:**

Pages 1-10 and 1-16: Please correct typographical errors of the permit number (0304870-008 should be 0304879-008).

The Department is supportive of the Central Everglades Planning Project South Project, sincerely appreciates the opportunity to comment, and looks forward to continuing our partnership with the Corps and SFWMD. Should you have any questions regarding our comments, please contact Ed Cambeiro at (850) 245-3176.

**Electronic copies to:**

Frank Powell  
Ed Smith  
Jordan Tedio  
Deinna Nicholson  
Natalie Barfield  
Chad Kennedy  
Kelli Edson  
Inger Hansen  
Paul Julian  
Alyssa Gilhooly  
Cortney Deal  
Ed Cambeiro



## Florida Fish and Wildlife Conservation Commission

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June 5, 2020

Chris Stahl  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Boulevard, MS 47  
Tallahassee, FL 32399-3000  
[Chris.Stahl@dep.state.fl.us](mailto:Chris.Stahl@dep.state.fl.us)

RE: Department of the Army, Jacksonville District Corps of Engineers –  
Environmental Assessment and Proposed Finding of No Significant Impact  
(FONSI) Central Everglades Planning Project South: Interim Operations  
(FL202005158949C) Broward and Miami-Dade Counties

Dear Mr. Stahl:

The Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the above-referenced project and provides the following comments and recommendations for your consideration in accordance with Chapter 379, Florida Statutes (F.S.), and pursuant to the federal National Environmental Policy Act (NEPA), and the federal Coastal Zone Management Act / Florida Coastal Management Program.

### Project Description

The Central Everglades Planning Project (CEPP) South: Interim Operations Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) address the construction and interim operations of features associated with CEPP South Contract 1. The first construction contract for CEPP South includes: (1) the L-67A gated culverts (S-631, S-632, S-633); (2) an interim 3,000 foot-levee gap on the L67C; and (3) spoil pile removal along the northwestern side of the L-67A canal. The EA further evaluates Adaptive Management and Monitoring Plan components that include: (1) backfill of the east-west agricultural ditch in WCA-3B; (2) installation of temporary pumps adjacent to the L-29 canal; and (3) active vegetation management to improve flow conveyance in WCA-3B.

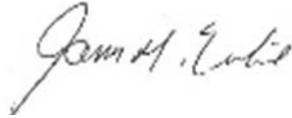
### Comments and recommendations

FWC staff reviewed the CEPP South Interim Operations FONSI and supports the selection of alternative ALTB4 as the preferred alternative. Staff recently provided detailed comments on the project components and operations being reviewed under the Florida Department of Environmental Protection construction and operations authorization request. No additional comments are necessary at this time, and the previously issued comments are enclosed for your convenience.

Chris Stahl  
Page 2  
June 5, 2020

FWC staff finds that the project is consistent with FWC's authorities under the Coastal Zone Management Act/Florida's Coastal Management Program and appreciate the opportunity to review this project. If you have further questions regarding the content of this letter, please contact [ConservationPlanningServices@MyFWC.com](mailto:ConservationPlanningServices@MyFWC.com).

Sincerely,

A handwritten signature in black ink, appearing to read "James Erskine". The signature is written in a cursive style with a large initial "J".

James Erskine  
Everglades Coordinator  
Office of the Executive Director

Enclosure  
CEPP South Interim Operations EA\_41791\_06052020

Cc: [Melissa.A.Nasuti@usace.army.mil](mailto:Melissa.A.Nasuti@usace.army.mil)



## Florida Fish and Wildlife Conservation Commission

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May 20, 2020

Katie Wallace  
Senior Permit Lead  
Florida Department of Environmental Protection  
Office of Water Policy and Ecosystems Restoration  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399  
[Katherine.m.wallace@floridadep.gov](mailto:Katherine.m.wallace@floridadep.gov)

RE: Notice of Application (NOA) Central Everglades Planning Project (CEPP) South features S-631, S-632, & S-633 Structures and L-67C Interim Gap Phase (Contract 1), construction and operation authorization request, Florida Department of Environmental Protection, File No. 0387130-001, Miami-Dade County.

Dear Ms. Wallace,

Florida Fish and Wildlife Conservation Commission (FWC) staff reviewed the above-referenced project and provides the following comments in accordance with FWC's authorities under Chapter 379, Florida Statutes, Rule 68A-27, Florida Administrative Code, and the Coastal Zone Management Act/Florida's Coastal Management Program.

### Project Description

The Central Everglades Planning Project (CEPP) will expand on the efforts initiated with the Combined Operational Plan (COP) by implementing conveyance and construction features to deliver and distribute water from WCA-3A to WCA-3B and Everglades National Park (ENP). In this phase of the project (Contract 1), USACE will construct the following features: three gated, 500 cubic feet per second (CFS) culverts in the L-67A levee (to be named S-631, S-632, and S-633 from north to south); remove approximately 3,000 feet of existing spoil piles northwest of the L-67A canal where the S-631 and S-632 structures will be built, and degrade 3,000 feet of the L-67C levee to the southeast of S-633, and backfill the East-West Agricultural Ditch with degrade of the adjacent spoil piles between L-67A and L-67C (approximately 1.36 miles). Excavated material from the L-67A and L-67C levees, and spoil piles west of L-67A, will be used to backfill the East-West Agricultural ditch. The L-67C Canal will be temporarily plugged to create a crossing to the eastern side of the Agricultural ditch, but the canal will be returned to the pre-project state after completion of the ditch backfill. Up to 0.5 miles at the southernmost terminus of the L-67 Extension Canal (adjacent to the levee terminus) may be filled using material taken from related CEPP Projects. The S-631, S-632, and S-633 gated culverts' construction methods will be similar to the S-152 DPM structure. The S-152 DPM features will remain in place and are not expected to be impacted by this project, enabling continued scientific investigations.

### Potentially Affected Resources

The application, and associated 2020 Central Everglades Planning Project (CEPP) South Biological Assessment acknowledges that USACE, or their selected contractor, will conduct pre-construction wildlife surveys and coordinate with the U.S. Fish and Wildlife Service (USFWS) on federally listed species. In addition to the federally listed species identified, staff review found that the project site is near, within, or adjacent to:

- Potential habitat for state-listed species:

- Tricolored heron (*Egretta tricolor*, ST)
  - Little blue heron (*Egretta caerulea*, ST)
  - Everglades mink (*Neovison vison evergladensis*, ST)
- Potential habitat for the Florida black bear (*Ursus americanus floridanus*) – South Bear Management Unit

### Federal Species

The project area may contain suitable habitat for federally listed species. We recommend the applicant continue to coordinate with the USFWS for information regarding potential impacts to these species. The USFWS South Florida Ecological Services Office can be contacted at (772) 562-3909 to discuss any necessary federal requirements.

### West Indian Manatee

FWC staff appreciate the conservation measures that the applicant has incorporated into the project and the ongoing coordination with USFWS and FWC. The Standard Manatee Construction Conditions for In-water Work were updated in 2011 ([https://myfwc.com/media/7246/manatee\\_stdcondin\\_waterwork.pdf](https://myfwc.com/media/7246/manatee_stdcondin_waterwork.pdf)). The application states that the applicant has agreed to follow the Standard Manatee Construction Conditions for all in-water work, and FWC staff suggest that these be included in the permit.

If the Standard Manatee Construction Conditions are made conditions to the permit, this will satisfy the requirements of 379.2431 (2) and 373.414(1)(a)2 Florida Statutes:

- The Standard Manatee Construction Conditions for In-water Work (2011) shall be followed for all in-water activity.

### Wading Birds

The potential exists for wading bird nesting activity within the areas designated for construction, backfill, and spoil mound removal. FWC staff recommends that specific surveys be conducted for wading birds in these areas of forested wetlands prior to the commencement of any clearing, grading, or filling activities. Surveys should be conducted during their breeding season, which extends from March through August. Additional information and guidance for conducting surveys can be found in the Species Conservation Measures and Permitting Guidelines for state-threatened wading birds (<https://myfwc.com/media/18634/threatenedwadingbirds-guidelines.pdf>). If there is evidence of nesting during this period, we recommend that any wading bird nest sites be buffered by 100 meters (330 feet) to avoid disturbance by human activities. If nesting is discovered after site activities have begun, if the removal or trimming of trees with active nests is unavoidable, or if maintaining the recommended buffer is not possible, we recommend that the applicant contact the FWC staff identified below to discuss potential permitting alternatives.

### Everglades Mink

The project site is in the presumed range of the Everglades mink. Everglades mink rely on multiple wetland habitats, do not avoid human activity, and frequently make use of man-made structures such as canals and levees nearby wetland habitats.

FWC has Species Conservation Measures and Permitting Guidelines for the Everglades Mink, which can be accessed at the following web address: <https://myfwc.com/media/11562/final-everglades-mink-species-guidelines-2016.pdf>. The population size is unknown for the Everglades mink and has been inferred from limited data. If an Everglades mink is observed onsite after construction begins, FWC staff recommends that work activities cease, and the mink be allowed to leave on its own accord. It would also contribute to FWC's research efforts if any sightings could be reported to the staff member at the close of this letter, or online at <https://public.myfwc.com/hsc/mink/Default.aspx>, preferably with a photograph and GPS coordinates.

### Florida Black Bears

It is possible to encounter Florida black bears in this area, which is within the South Bear Management Unit identified in the 2019 Bear Management Plan. While black bears tend to shy away from people, they are adaptable and will take advantage of human-provided food sources. Once bears become accustomed to finding food around people, their natural wariness is reduced to the point that there can be an increased risk to public safety or private property.

During construction, construction sites should be kept clean, with refuse that might attract bears kept separate from construction debris and stored securely in bear-resistant containers or removed daily from the construction site before dark. There are guidelines for how construction personnel should respond to bears in the area, such as

- What to do if they encounter a bear, whether from a distance or at close range, <https://myfwc.com/wildlifehabitats/wildlife/bear/living/encounter/>
- When and how to contact the FWC regarding a bear issue. <https://myfwc.com/wildlifehabitats/wildlife/bear/nuisance-contact/>

FWC staff is available to assist with planning to incorporate the above features. Additional information about Florida black bears can be found on our website at <http://www.myfwc.com/wildlifehabitats/managed/bear>.

### Non-Native Wildlife

The Early Detection & Distribution Mapping System (EDDMapS), and FWC databases contain records of Burmese pythons (*Python bivittatus*) in the project area. Should construction workers encounter any Burmese pythons or other non-native wildlife listed as Conditional or Prohibited species (<http://www.myfwc.com/wildlifehabitats/nonnatives/regulations/>) such as Nile monitors (*Varanus niloticus*), or other invasive exotic reptiles such as Argentine black and white tegus (*Tupinambis merianae*), during construction-related activities, they are requested to report these sightings, whether dead or alive. FWC staff recommends photos and GPS coordinates be collected and reported to <http://www.IveGot1.org>. If USACE or contracted workers require assistance capturing or removing priority non-native wildlife, they should call FWC's Exotic Species Hotline at 1-888 IVE GOT1 (888-483-4681).

### Wildlife Surveys

FWC staff recommends that wildlife surveys be conducted prior to any site development activities. We recommend that wildlife surveys follow survey protocols established by the U.S. Fish and Wildlife Service (USFWS) and the FWC and that surveys should be conducted by qualified individuals with recent documented experience.

Basic guidance for conducting wildlife surveys may be found in the Florida Wildlife Conservation Guide (<https://myfwc.com/conservation/value/fwcg/>).

#### Public Access and Recreation

Construction of the S-631, S-632, and S-633 culverts, spoil mound removal, levee degrade, and backfilling the East-West Agriculture ditch are all located within the Everglades and Francis S. Taylor Wildlife Management Area (EWMA). The EWMA provides access to a variety of nature-based recreational activities, including hunting, boating, and fishing. FWC staff request that construction plans and activities accommodate for recreational uses of the levees, canals, boat ramps, and adjacent wetlands as much as practicable. Additionally, the identified construction haul roads coincide with multiple public access locations for the EWMA and FWC staff request that the levees identified as construction haul roads remain open to recreational access and contracted python hunters as much as practicable. FWC staff are available to work directly with USACE and the contractor to identify accommodations that help maintain the established recreational access and access for contracted python hunters.

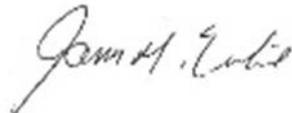
#### Adaptive management

The permit application includes adaptive management activities to enhance flow by reconnecting historic sloughs in WCA-3B and installing temporary pumps. Active vegetation management in WCA-3B will be accomplished using herbicides and is expected to redirect more flow toward the natural orientation (south) of the landscape and increase sheet flow. Temporary pumps will be installed in the L-29 canal, with a total discharge capacity of 200 CFS, as an interim measure to further improve the southerly sheet flow towards the L-29 canal. FWC staff requests that USACE and the South Florida Water Management District continue to coordinate with staff regarding the implementation of adaptive management activities.

FWC staff appreciates the opportunity to provide input on this project and look forward to working with all involved agencies as the project moves forward. If you need any further assistance, please contact our office by email at

[ConservationPlanningServices@MyFWC.com](mailto:ConservationPlanningServices@MyFWC.com).

Sincerely,



James Erskine  
Everglades Coordinator  
Office of the Executive Director

## Nasuti, Melissa A CIV USARMY CESAJ (USA)

---

**From:** Steelman, Marcia (RER) <Marcia.Steelman@miamidade.gov>  
**Sent:** Monday, June 15, 2020 9:12 PM  
**To:** Nasuti, Melissa A CIV USARMY CESAJ (USA)  
**Cc:** Blanco-Pape, Marina (RER); Grossenbacher, Craig (RER); Pisani, Alberto (RER)  
**Subject:** [Non-DoD Source] CEPP South Draft EA Comments - Miami-Dade County

Melissa,

Here are Miami-Dade's comments, on the EA report:

The main concern I have with this project regarding flood protection, is the completion of the features to be built under contract 2, 3b and 5, after features that would increase flows from WCA 3A into WCA-3B and south through the L-67, scheduled to be constructed under Contract 1, which will break ground in 2020. It is my understand that building the upstream components prior to the downstream features would limit the ability to operate them without affecting flood protection. We are also particularly concerned about the delay of the seepage management pump S-356 to Year 2022 and the L-29 Levee Removal, scheduled for 2024. The SFWMD is currently removing the of Old Tamiami Trail under contract 14 and pursuing the construction of S-333N (1, 150 cfs), under contract 3a, which would be extremely beneficial.

Flood protection is recognized as one of the project constraints on page 1-14. While extensive modeling of the features was conducted on other projects such as DECOMP and COP, the phased construction approach was not evaluated as proposed in the EA. The Adaptive Management strategies proposed, acknowledge the issue of the phased approach on pages 2-6 and 2-7, but do not include possible interim flood protection features or measures. Please include a more detailed flood protection discussion in this chapter of the report.

In Sections 2.4.2 Flood Risk management and 4.5.1, the report acknowledges that due to *“further certainty regarding the schedule for implementation of upstream operational changes that will supply additional inflows south to WCA 3A and quantification of these flows, which has the potential to alter these conclusions, future CEPP South hydrologic modeling will need to re-assess performance for the 8.5 SMA flood mitigation constraint. Since the CEPP degrade of the L-29 Levee will be a permanent change to the C&SF infrastructure, hydrologic modeling in support of a future Water Control Plan update will necessarily be completed prior to PED design of this CEPP South component in 2023.”* There is no language or provisions in the document about future test operations during flood events, targeting flood protection for the existing structures along the L-31N and 8.5 Square Mile Area, to address the phased construction approach and the future conditions with CERP.

The two sets of temporary pumps (Figure 2-3), are rated at combined 100 cfs at each location (200 cfs total), to support interim flow tests as part of CERP/CEPP Adaptive Management Strategy. The capacity of these pumps seem to be small when compared to the potential runoff produced within the WCA 3B just by rainfall, even without inflows through the L-67. The report states that pumping will cease when L-29 canal stages reach 8.5 feet, NGVD per the COP Water Control Plan, or in response to other relevant L-29 operational limitations prescribed under the COP for protection of the Tamiami Trail Roadway and/or the 8.5 SMA. The L-29 temporary pump capacity will be limited to one-half of the combined inflow to WCAs. Please provide more details on the purpose of these temporary pumps and how the combined capacity of 200 cfs was determined.

On page 3-5, the report reflects the COP EIS conclusion that raising stages along the L-29 to 8.5 feet NGVD may be difficult without the construction of the Tamiami Trail Next Steps (TTNS) Bridges. We would like to see flood protection interim operational tests, as new features are constructed and placed in service, as part of the Adaptive Management Strategies for the project, in addition to the water deliveries to the ENP.

Figures 4-11 and 4-12 do not have a legend for the vector, representing flow.

On page 4-33 the report states that the 8.5 SMA flood mitigation performance was evaluated using the MD-RSM, since the RSM-GL model resolution is too coarse around the 8.5 SMA to evaluate localized effects from the S-357, S-357N, and S331 operations. The combined modeling strategy is adequate for the purposes of evaluation of scenarios. The stage-duration curves seem to indicate that there will be no significant impact to the existing flood protection levels of service in the 8.5 Sq. Mile Area.

The figures 4.36 and 4.37 seem to indicate that there would be improvement when compared to current conditions, regarding the extent of flooding. The selected evaluation criteria does not seem sufficient to establish levels of service in agricultural area and habitable structures, which would require a comparison of frequency distribution of extremes events. Without those statistics we cannot tell if the project will improve flood levels of service, in a meaningful way, only if it would get wetter or drier. The report provides stage duration curves, but they are difficult to read at the high levels. Can a table with the standard frequencies be provided for the 0.2%, 1% and 10% probability of exceedance?

There is an apparent inconsistency in the Figure 4.27, showing that the average stages in a wet year would be higher than base conditions, impacting the flood levels of service, which seem to contradict the statements of no impact and the results of figures 4.36 and 4.37. Can you please explain this apparent inconsistency?

The figure 4.40 indicates that the all alternatives would result in shorter hydroperiods at LPG2, which is the indicator gauge of the 8.5 Sq. Mile Area, and LPG17, when compared to the baseline. However, the model results for the CBS2027 (No Action Alternative) shows wetter conditions. CBS2027 includes additional flows, resulting of future CERP projects, not included in the project alternatives. This change in flow conditions make the comparison of the alternatives against the No-Action alternative difficult, since the boundary conditions are not the same. Please explain why this comparison could still be valid.

These are our comments.

Please e-mail me if you have any questions. We are all working from home and using the phone below for messages.

Warmest regards,

**Marcia Steelman, CFM, Engineer 3**

*Water Management Division*

*Department of Regulatory and Economic Resources,*

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