

# SOUTH FLORIDA ECOSYSTEM RESTORATION (SFER) PROGRAM

Program & Project Update

SFER Joint Working Group (WG) and Science Coordination Group (SCG) Meeting

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U.S. Army Corps of Engineers, Jacksonville District

September 28, 2021

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## **SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM**

### **Agenda**

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**Program Structure**

**FY21 Budget**

**Integrated Delivery Schedule (IDS)**

**Planning**

**Lake Okeechobee Watershed Restoration Project (LOWRP)**

**Western Everglades Restoration Project (WERP)**

**Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER) Project**

**Design/Construction**

**Kissimmee River Restoration (KRR)**

**C-111 South Dade (C-111SD)**

**Picayune Strand Restoration (PSRP)**

**Indian River Lagoon – South (IRL-S)**

**Biscayne Bay Coastal Wetlands (BBCW)**

**Central Everglades Planning Project (CEPP)**

**Everglades Agricultural Area (EAA) Reservoir**

**Operations**

**Modified Water Deliveries, Combined Operational Plan (COP)**

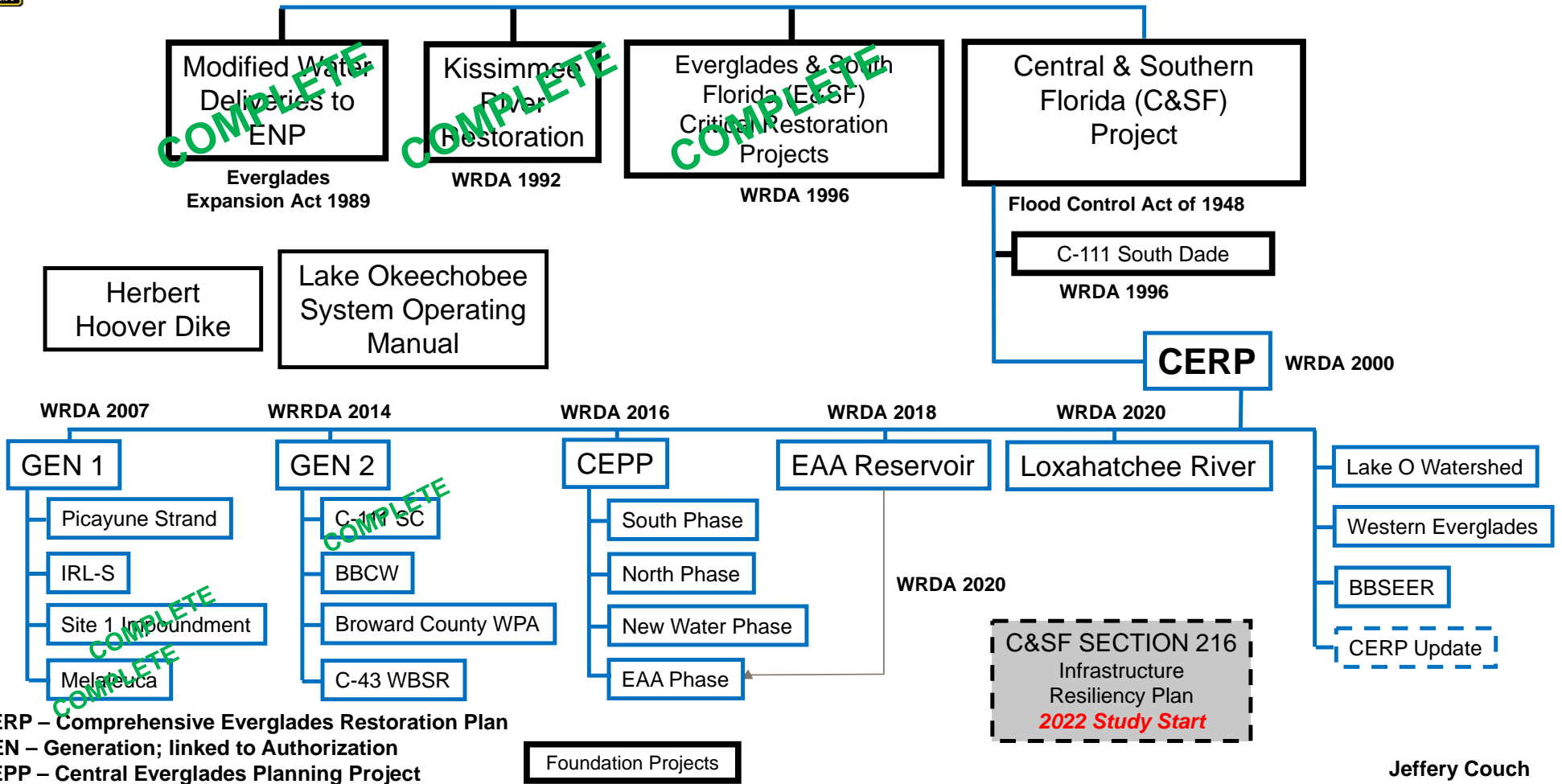
**Lake Okeechobee System Operating Manual (LOSOM)**

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# SOUTH FLORIDA ECOSYSTEM RESTORATION (SFER) PROGRAM PROGRAM STRUCTURE



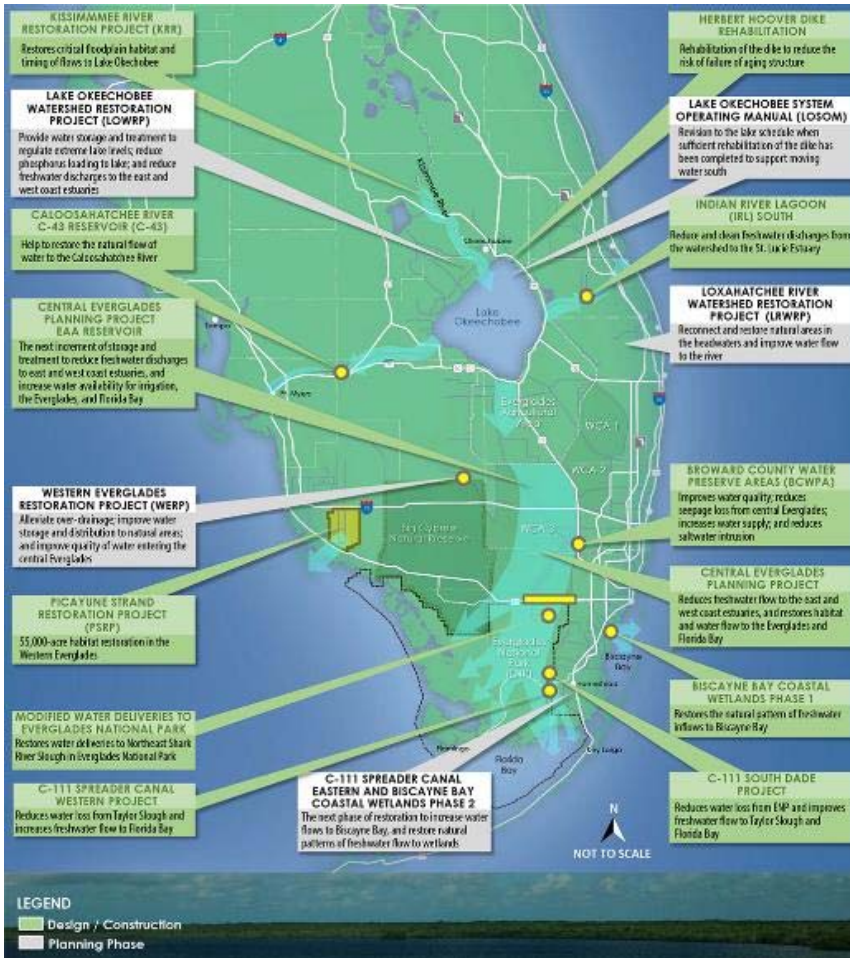
CERP – Comprehensive Everglades Restoration Plan  
 GEN – Generation; linked to Authorization  
 CEPP – Central Everglades Planning Project  
 FRM – Flood Risk Management

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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OVERVIEW



CONSTRUCTION		OPERATIONS & MAINTENANCE
\$83M	FY20 Carryover	\$0
\$250M	FY21 President's Budget	\$10.052M
\$0	FY21 Workplan	\$0
\$333M	FY21 Available	\$10.052M

## Recent Actions and Activities:

**FY22 President's Budget (PBUD)**

**\$350M for SFER Construction**

**\$8.95M O&M**

**-----\$500k and New Start for C&SF Section 216 Infrastructure Resiliency**

**Momentum and Project Delivery Continues!!!**

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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PLANNING



- Lake Okeechobee Watershed Restoration Project (LOWRP)
- Western Everglades Restoration Project (WERP)
- Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER) Project

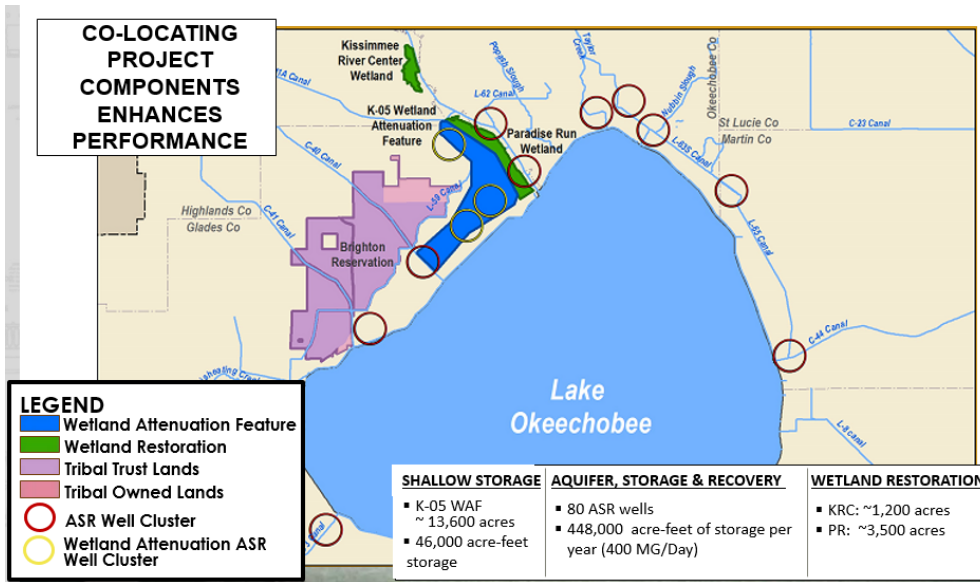
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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Lake Okeechobee Watershed Restoration Project (LOWRP)

## Recommended Plan – Alternative 1BWR



Improve water levels in Lake Okeechobee; improve the quantity and timing of discharges to the St. Lucie and Caloosahatchee estuaries; restore degraded habitat for fish and wildlife throughout the study area; and increase the spatial extent and improve wetland functionality.

### Recommended Plan

#### Aquifer Storage and Recovery (ASR)

- 55 ASR Wells
- Up to 308,000 ac-ft/yr, continuous recharge

#### Wetland Restoration

- Kissimmee River Center: Approx. 1,200 acres
- Paradise Run: Approx. 3,500 acres

### Key Take Away:

- ASA (CW) approved 3x3x3 SMART Planning Exception
- Seeking Chief's Report approval in July 2022, Inclusion in WRDA 2022

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## LEGEND

-  Seminole Tribe of Florida Reservation
-  Miccosukee Tribe of Indians of Florida Reservations

## Measures

-  Water Treatment
-  Weir
-  Adjustable Control Structure
-  Pump
-  Culvert
-  Plug
-  Spreader
-  Treated Water
-  Runoff
-  Backfill
-  Backfill/Degrade Levee
-  Vegetation Restoration
-  Existing Culverts
-  Existing Structures
-  Embankment
-  Pipe

Note: All alternatives assume STA 5/6 modifications will be constructed prior WERP implementation.



## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Western Everglades Restoration Project (WERP)

Improve the quantity, quality, timing, and distribution of water in the western Everglades. Reestablish sheetflow across the Big Cypress Seminole Indian Reservation and into Big Cypress National Preserve while maintaining existing levels of flood protection and water quality standards.

### Key Take Away:

- Project briefed to SFER Task Force on 29 October 2019 with notification of SAJ's intention to terminate
- Letters of study support received from SFWMD, FDEP, DOI, NPS, STOF, and MTOIF; follow-up meeting conducted February 2020
- Study reinitiated in March 2020
- Study paused in December 2020
- Pursuing 2<sup>nd</sup> SMART Planning exception for an additional \$4.5M and 23 months

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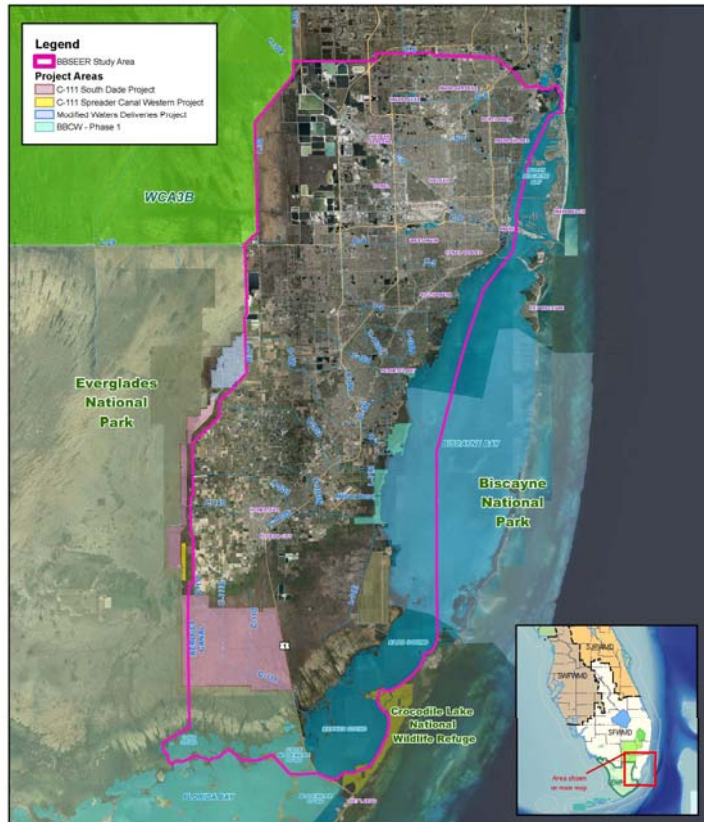
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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

## Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER)



Restore ecological conditions in the Model Lands, Southern Glades, and coastal wetlands, and nearshore zones of Biscayne Bay, Card Sound, Barnes Sound, and Manatee Bay.

Improve ecological and hydrological connectivity between Biscayne Bay coastal wetlands, the Model Lands, and Southern Glades

Increase resiliency of coastal habitats in southeastern Miami-Dade County to sea level change

### Key Take Away:

- Study Initiation on September 2020
- Alternatives Milestone Approved March 2021
- **3x3 SMART Planning Exception:**
  - **5 yrs, Budget \$4.5M F/NF**
  - **Pending HQ and OASA(CW) Review and Approval**

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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN / CONSTRUCTION



- Kissimmee River Restoration (KRR)
- C-111 South Dade (C-111SD)
- Picayune Strand Restoration (PSRP)
- Indian River Lagoon – South (IRL-S)
- Biscayne Bay Coastal Wetlands (BBCW)
- Central Everglades Planning Project (CEPP)
- Everglades Agricultural Area (EAA) Reservoir

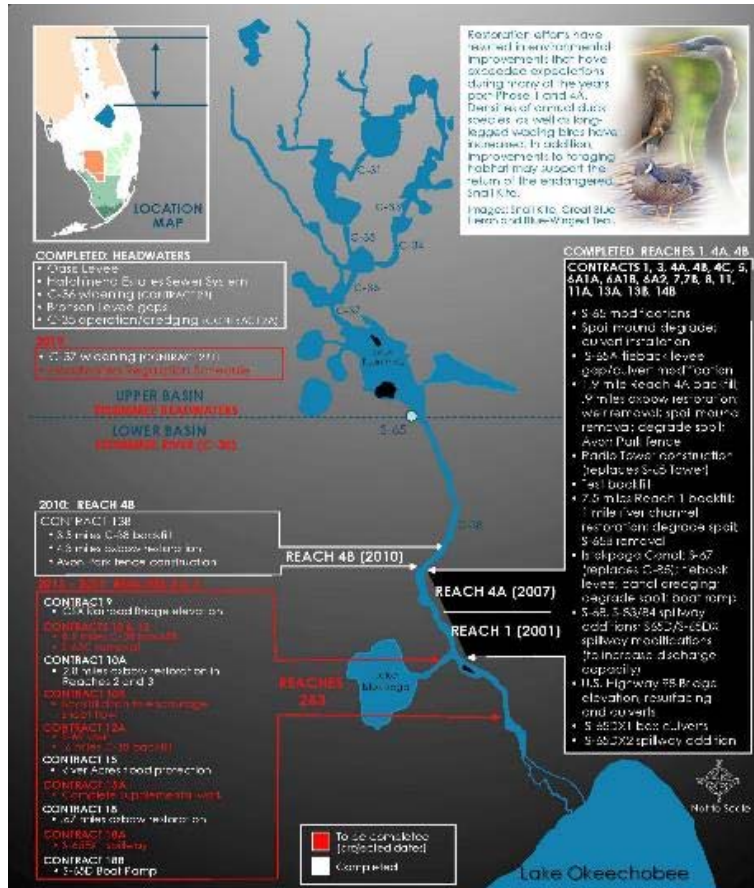
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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Kissimmee River Restoration (KRR)

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Restore critical floodplain habitat, timing and flows to Lake Okeechobee

### Total Project Benefits:

- Convey 130,000 ac-ft of natural floodplain storage to slow the flow of water into Lake Okeechobee & reduce the impacts of high-volume discharges into the St. Lucie & Caloosahatchee estuaries.

### Key Take Away:

#### Construction Complete July 2021!

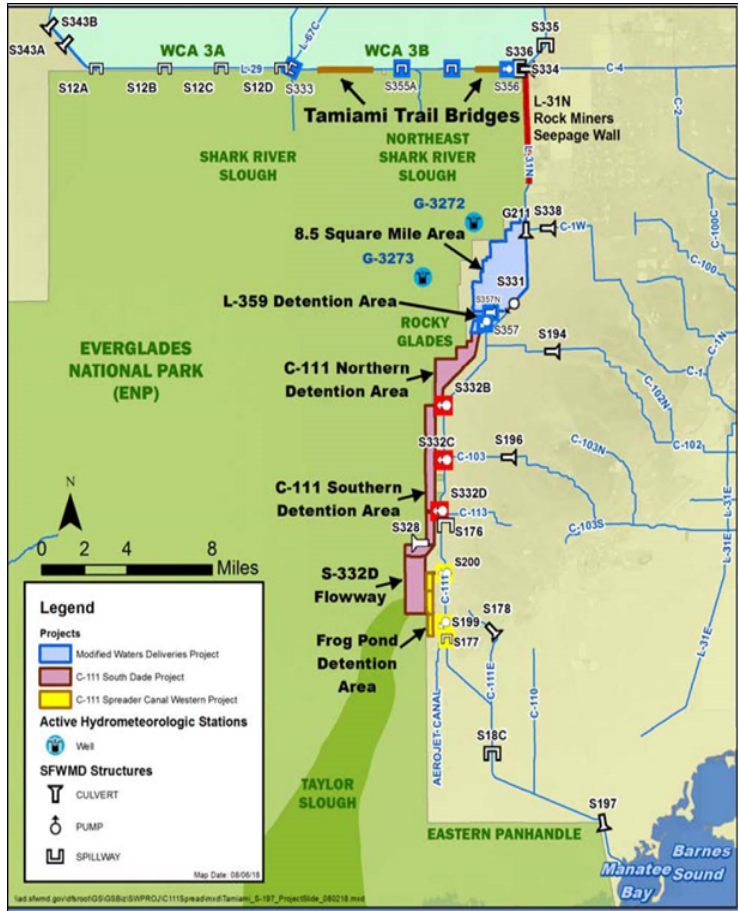
- S-69 Weir and Reach 3 South Canal Backfill
- Reach 2 Backfill
- Begin post construction operations including incremental implementation Headwaters Revitalization Schedule:
  - Increment 1 scheduled for June 2022
  - Full HRS in 2025
  - Restoration Evaluation Monitoring will begin after full HRS implementation

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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Canal 111 (C-111) South Dade



Reduces water losses from Everglades National Park and improves freshwater flow to Taylor Slough and Florida Bay. Provides for 9,500 acre-feet of storage & seepage that reduces damaging canal discharges to Barnes Sound, reduces seepage losses from ENP, and maintains flood protection for commercial, residential, and agricultural properties to the east

### Key Take Away:

- SFWMD initiated work on preliminary designs for replacement pump station S-332B & S-332C;
- Preliminary designs to be completed in June 2022.
- SFWMD to lead final design and construction of S-332B pump station;
- USACE to lead final design and construction of S-332C pump station.

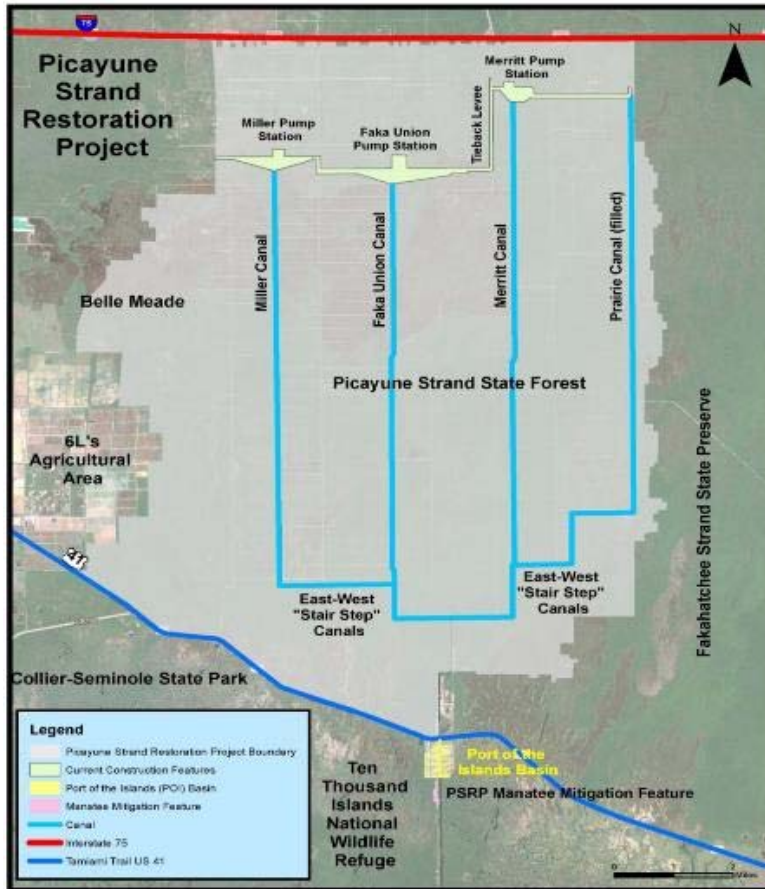
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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

## Picayune Strand Restoration Project (PSRP)



Restore 55,000 acres of native Florida wetlands and uplands

### Total Project Benefits:

- Conveyance of water will restore natural habitat
- Three pump stations: Merritt, Faka Union, and Miller
- Plugging 48 miles of canals and removing/degrading 260 miles of roads

### Key Take Away:

- Pump Stations complete and transferred to SFWMD for Operations & Maintenance
- Completed plugging the East-West (Stair Step) Canal in July 2021 and the northern 3.3 miles of the Faka Union Canal in August 2021
- Road removal and canal plugging ongoing
- Southwest Protection and Conveyance Features (Levee and culverts) construction initiated
- Construction completion scheduled for 2025

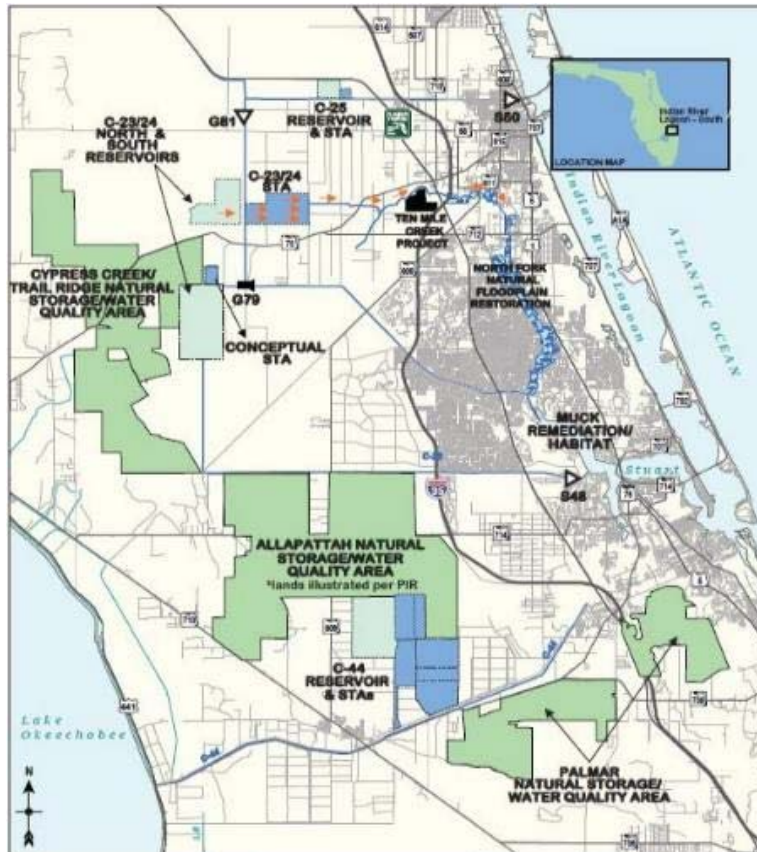
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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Indian River Lagoon - South

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The Indian River Lagoon and St. Lucie Estuary are two of the country's most productive and most threatened estuaries; the project will reconnect and restore natural areas in the headwaters and improve water flow to the river

### Total Project Benefits:

- Storage and treatment of 60,500 acre-feet local basin runoff prior to it flowing into the St. Lucie Estuary
- 12,000 acres of above ground storage
- 9,000 acres of wetlands
- 889 acres of restored oyster habitat
- 922 acres of submerged aquatic vegetation restored

### Key Take Away:

- C-44 construction completed in September 2021
- C-23/24 Stormwater Treatment Area (STA) construction contract awarded in September 2021
- Post Authorization Change Report (PACR) Validation Report is underway

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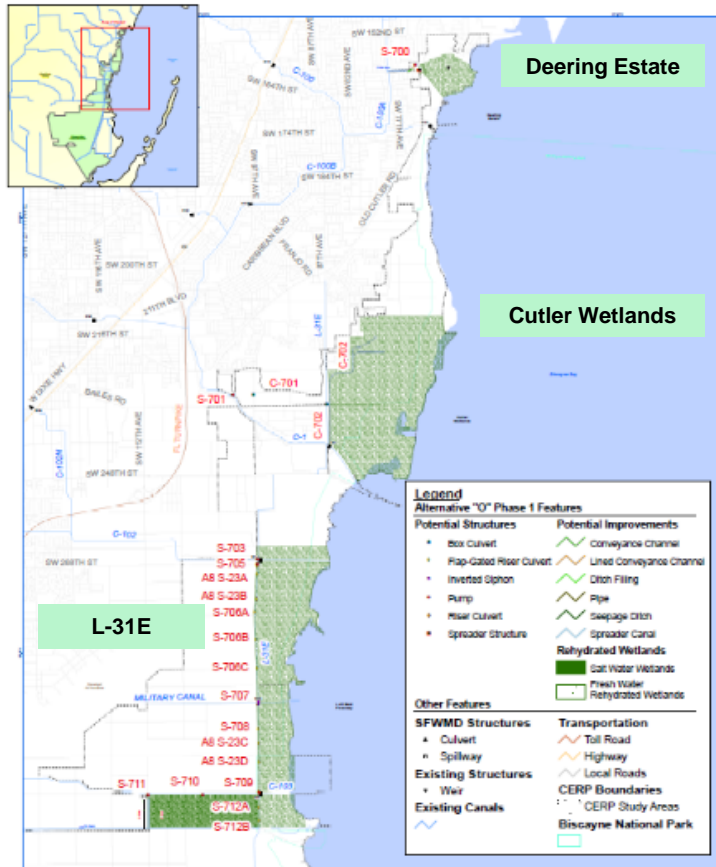
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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

## Biscayne Bay Coastal Wetlands (BBCW)



Rehydrate coastal wetlands and reduce damaging point-source freshwater discharge, redistribute surface water, and improve Biscayne Bay ecological habitat function.

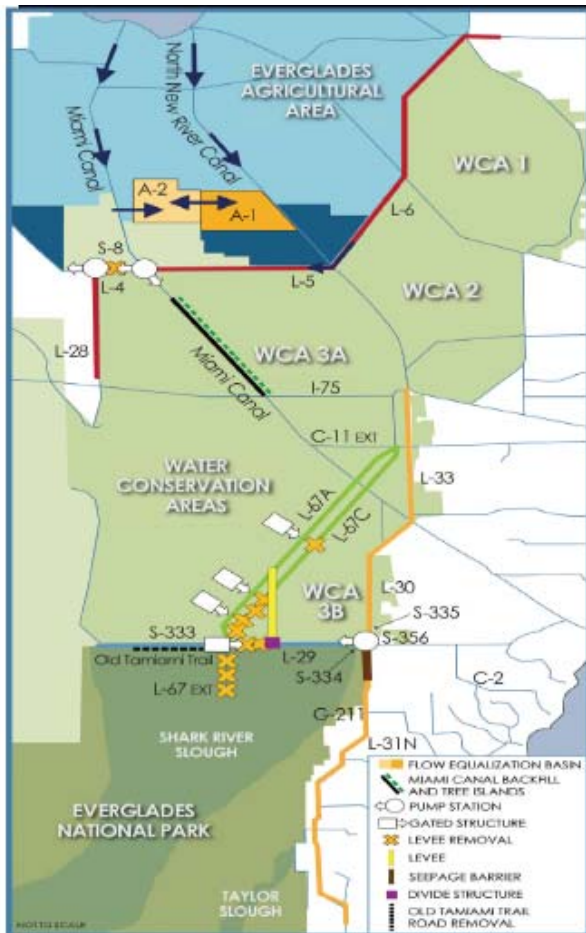
### Key Take Away:

- **Deering Estate** (SFWMD construction)
  - Contract 1: OMRR&R
- **L-31 East** (USACE construction)
  - Contract 3: construction complete, OMRR&R
  - Contract 4: awarded 2020; S-709
  - Contract 5A: awarded 2020; S-705
  - **Contract 5B: awarded 2021; S-703, spreader, recreation**
  - **Contract 5C: awarded 2021; S-710 & S-711, seepage canal, spreader system**
- **L-31 East** (SFWMD construction)
  - Contract 2: construction complete; OMRR&R
- **Cutler Wetlands** - Final feature of the BBCW1 project
  - SFWMD design, USACE review
  - **SFWMD construction scheduled initiation in 2022**

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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Central Everglades Planning Project (CEPP)



CEPP focuses restoration on more natural flows into and through the central and southern Everglades by increasing storage, treatment and conveyance of water south of Lake Okeechobee; removing canals and levees within the central Everglades, and retaining water within Everglades National Park

### Status:

- **CEPP South Phase**
  - Project Partnership Agreement (PPA) executed 27 July 2020
  - SFWMD led design and construction of features
  - SAJ construction contract awarded in September 2020
  - Construction underway
- **CERP North Phase**
  - Initiated CEPP North Validation Report in October 2020;
  - Scheduled for completion in 2022
- **CEPP New Water**
  - Initiated CEPP New Water Validation Report in September 2021;
  - Scheduled for completion in 2022

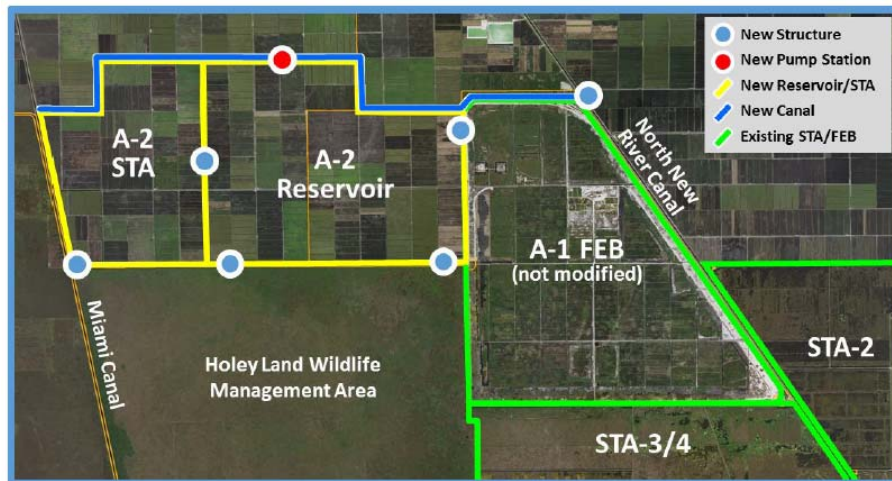
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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Central Everglades Planning Project (CEPP) Everglades Agricultural Area (EAA) Phase

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Improve the quantity, quality, timing, and distribution of water flows to the central Everglades, Water Conservation Area 3 (WCA-3) and Everglades National Park (ENP)

### Key Take Away:

- Authorized in WRDA 2018, Section 1308
- Reauthorized in WRDA 2020 as a modification of CEPP
- PPA executed 29 April 2021
- SFWMD design and construction initiated 20 April 2020
- **USACE construction contract award September 2021**

### Everglades Agricultural Area (EAA) Features:

- A-2 Reservoir: 10,500 acres with 240,000 ac-ft storage at ~23 feet deep
- A-2 Stormwater Treatment Area (STA): 6,500 acres
- Adds 160,000 to CEPP's 210,000 for a total of 370,000 average annual acre-feet of new water flowing through to the central Everglades

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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS



- Modified Water Deliveries, Combined Operational Plan (COP)
- Lake Okeechobee System Operating Manual (LOSOM)

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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Modified Water Deliveries to Everglades National Park

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Restore water deliveries to Northeast Shark River Slough in Everglades National Park. Conveyance and seepage management improve natural water flows to Everglades National Park, provide flood mitigation for residential areas, re-connect freshwater flows, and reduce seepage losses

### Key Take Away:

- Combined Operational Plan (COP) complete and ongoing
- FDOT supported a permanent extension of the COP WCP annual limit for Tamiami Trail operations above 8.3 feet NGVD from 90 days to 120 days.
- Enhanced dry season flows (Tamiami Trail Flow Formula TTF)

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## SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS



- Lake Okeechobee System Operating Manual (LOSOM)

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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

## Lake Okeechobee System Operating Manual (LOSOM)

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### Study Goal

Incorporate flexibility in Lake Okeechobee operations while balancing congressionally authorized project purposes.

### Study Objectives

There are four study objectives, each with their own sub-objectives:

#### Objective 1:

Manage risk to public health and safety, life and property

**1A:** Dam safety

**1B:** Algal bloom risk in Lake Okeechobee

**1C:** Algal bloom risk in Caloosahatchee Estuary

**1D:** Algal bloom risk in St. Lucie Estuary

#### Objective 2:

Continue to meet authorized purposes for navigation, recreation, and flood control

**2A:** Navigation

**2B:** Recreation

**2C:** Flood control

#### Objective 3:

Improve water supply performance

**3A:** Lake Okeechobee Service Area

**3B:** Seminole Tribe of Florida

**3C:** Lower East Coast Service Area

#### Objective 4:

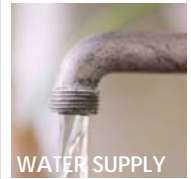
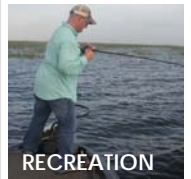
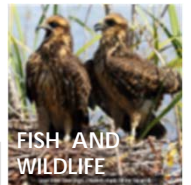
Enhance ecology in Lake Okeechobee, northern estuaries and across the south Florida ecosystem.

**4A:** Lake Okeechobee

**4B:** Caloosahatchee Estuary

**4C:** St. Lucie Estuary

**4D:** South Florida



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# SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

## Lake Okeechobee System Operating Manual (LOSOM)



### SCHEDULE



#### ACTIVITIES

- Optimize preferred lake schedule alternative with very specific acceptable tradeoffs identified
- Modify as needed to increase schedule robustness and flexibility for incremental implementation (forward and backward checks)

**August 9 - November 18**

RSMBN & RSMGL & DMSTA

- Identification of operational criteria and guidance for water managers
- PDT involvement to help identify and develop the concepts to improve decision making and flexibility of the plan

**August 9 - November 18**

RSMBN & RSMGL & DMSTA

- Draft NEPA documentation of the effects of the alternatives and how the preferred alternative was chosen
- Draft water control plan documentation including regulation schedule and operational guidance
- ESA consultation and Biological Assessment

**November 19 - March 18**

- NEPA public, agency, and tribal review and comment on the Draft LOSOM EIS and Water Control Plan
- Corps Agency Technical Review (ATR) and Independent External Peer Review (IEPR)
- Draft FWS Biological Opinion

**March 18 - May 5, 2022**

- Final EIS and SOM completed to address review comments
- Final FWS Biological Opinion
- NEPA public, agency, and tribal review of Final EIS and SOM
- Corps South Atlantic Division review and approval of Record of Decision

**May 6 - December 28, 2022**

SCHEDULE REFINEMENT AND DOCUMENTATION PROCESS

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