

U.S. ARMY CORPS OF ENGINEERS (USACE)
JACKSONVILLE DISTRICT

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

SOUTH FLORIDA RESTORATION TASK FORCE
WORKING GROUP/SCIENCE COORDINATION GROUP

Presented by: Eva B. Vélez, PE, Chief, Ecosystems Branch

01 September 2022



US Army Corps
of Engineers ®

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FY22 EXECUTION FOCUS

▪ **FY22 Budget / FY23 President's Budget**

▪ **Program-level Activities**

- ▶ Integrated Delivery Schedule (IDS)
- ▶ RECOVER (Restoration, Coordination, VERification)
- ▶ CERP Update

▪ **Planning**

- ▶ Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER) Project
- ▶ Indian River Lagoon – South (IRL-S)
- ▶ Lake Okeechobee Watershed Restoration Project (LOWRP)
- ▶ Western Everglades Restoration Project (WERP)

▪ **Design/Construction**

- ▶ 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)
- ▶ Broward County Water Preserve Areas (BCWPA)
- ▶ Loxahatchee River Watershed Restoration Project (LRWRP)

▪ **Operations**

- ▶ Kissimmee River Restoration (KRR)
- ▶ Indian River Lagoon – South (IRL-S)
- ▶ Modified Water Deliveries, Combined Operational Plan (COP)
- ▶ Lake Okeechobee System Operating Manual (LOSOM)



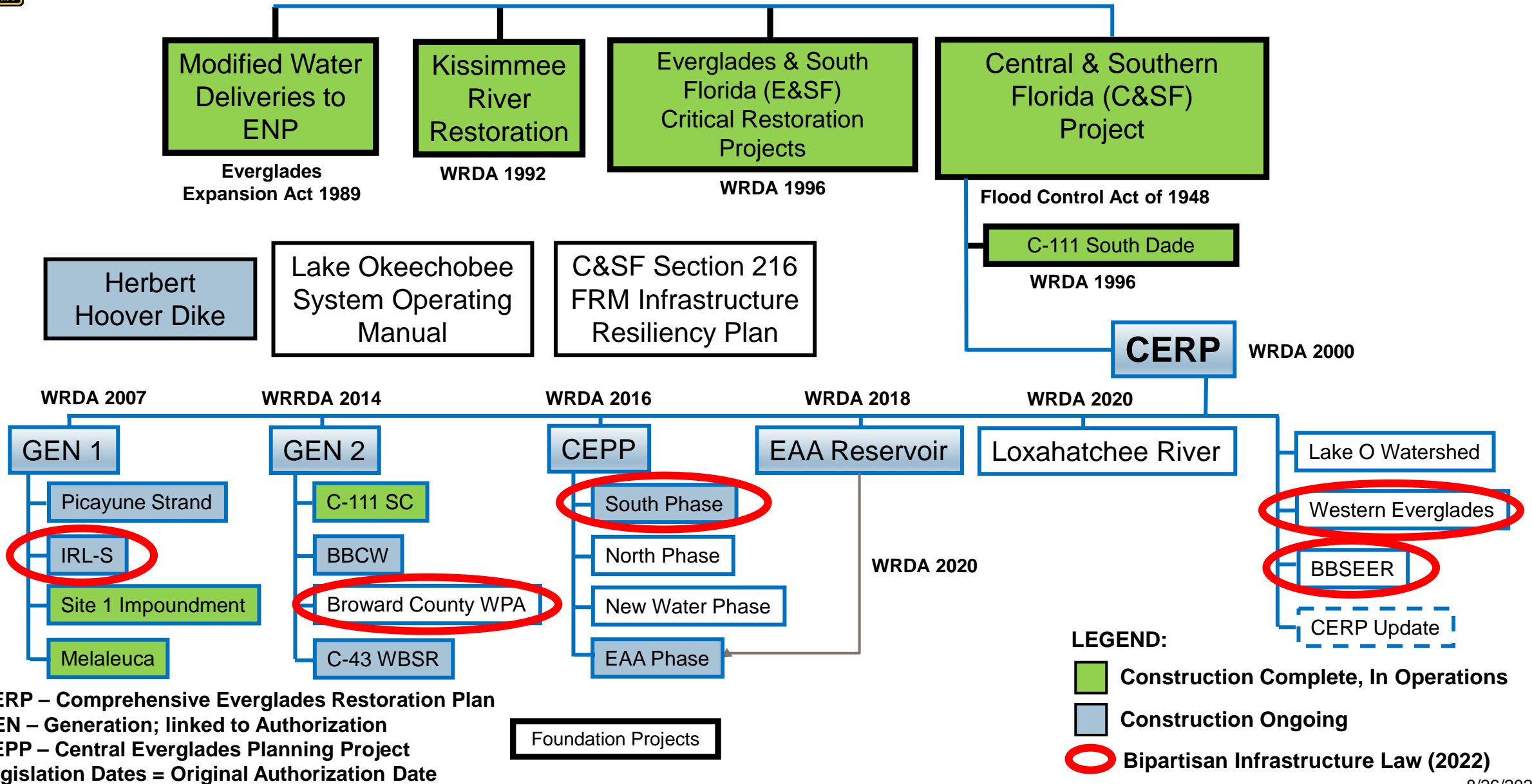
SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM BUDGET OVERVIEW



INVESTIGATIONS	CONSTRUCTION	SFER & C&SF RESILIENCE	OPERATIONS & MAINTENANCE
\$0.5M	\$352.5M	FY22 Budget	\$10.94M
\$0	\$407M	FY23 President's Budget	\$10.67
\$0	\$1.097B	Bipartisan Infrastructure Law (BIL 2022)	\$0



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PROGRAM STRUCTURE





SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PROGRAM-LEVEL ACTIVITIES

- Integrated Delivery Schedule (IDS)
- RECOVER (Restoration, Coordination, VERification)
- CERP Update



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PROGRAM-LEVEL ACTIVITIES

INTEGRATED DELIVERY SCHEDULE



INTEGRATED DELIVERY SCHEDULE 2021 UPDATE FINAL DRAFT

The Comprehensive Everglades Restoration Plan (CERP) is the largest water project in the nation, spanning over 100,000 acres and extending to nearly 100 miles of water. It is the largest water project in the nation, spanning over 100,000 acres and extending to nearly 100 miles of water. It is the largest water project in the nation, spanning over 100,000 acres and extending to nearly 100 miles of water.

Region	Area	2021	2022	2023	2024	2025
North	Area 1	100	100	100	100	100
Central	Area 2	200	200	200	200	200
South	Area 3	300	300	300	300	300
West	Area 4	400	400	400	400	400
East	Area 5	500	500	500	500	500
Southwest	Area 6	600	600	600	600	600
Southwest	Area 7	700	700	700	700	700
Southwest	Area 8	800	800	800	800	800
Southwest	Area 9	900	900	900	900	900
Southwest	Area 10	1000	1000	1000	1000	1000

SOUTH FLORIDA ECOSYSTEM RESTORATION AND GETTING THE WATER RIGHT – 2021 WORKING DRAFT

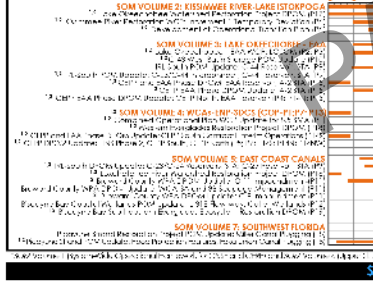
THE RESTORATION FRAMEWORK

OPERATIONS IN SYNC WITH PROJECT DELIVERY
Restoration activities, including several components, are implemented in the CERP. The CERP includes 1,000 miles of canals and several hundred water control structures and pump stations providing the CERP's comprehensive purpose of flood control, water supply, regional groundwater control, prevention of water intrusion, recreation, and preservation of fish and wildlife.

COMPONENTS AND PROJECTS

The CERP identified all components that contribute significantly to "getting the water right" and restoring the health of the ecosystem. Through a rigorous planning process, the components described in the CERP "Yellow Book" are combined into implementable projects that become part of the Integrated Delivery Schedule (IDS).

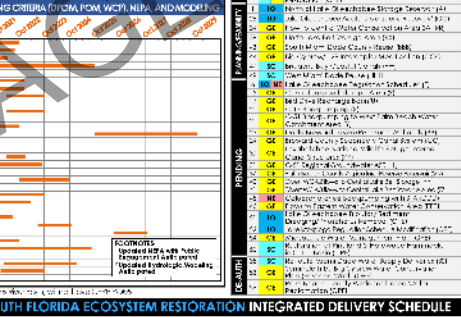
SOIL VOLUMES BY REGION



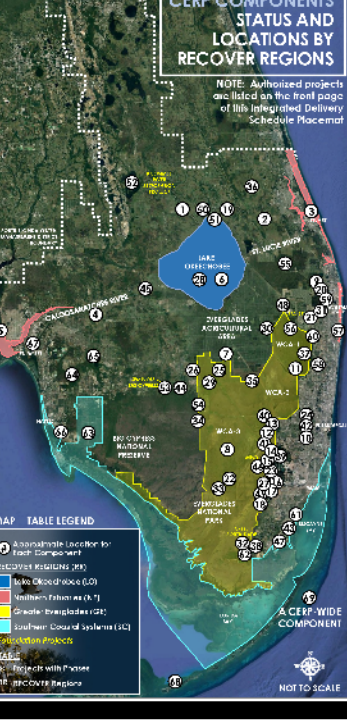
TRACKING RESTORATION SUCCESS

The concept of Basin Goals was introduced in the initial portion of the CERP and was further developed into the Programmatic Regulations and defined as "a means by which the restoration success of the Plan may be measured throughout the implementation process." The regulations are used to track the progress of CERP projects and to provide a means of measuring the success of the Plan.

Inlieu Goals and Targets (IGTs) provide a quantitative means of tracking performance across all activities. Indicators of time towards restoration of the South Florida system used to improve progress of CERP to policy makers and the public. They also facilitate adaptive management of the system by linking science to decision making of out-of-proposal performance targets meeting goals and targets is less than anticipated.



STATUS AND LOCATIONS BY RECOVER REGIONS



- ✓ **05 August 2022**
Integrated Delivery Schedule 101 and Stakeholder Listening Session
- ✓ **19 August 2022**
Integrated Delivery Schedule 101, 68 CERP Components Overview, and Listening Session with Stakeholders
- **19 October 2022**
Working Draft 2022 IDS Update
- **18 November 2022**
Release of Final Draft 2022 IDS Update

Component ID	Component Name	Phase	Start Date	End Date	Status
101	Water Control	Completed	2018	2020	Completed
102	Water Control	In Progress	2020	2022	In Progress
103	Water Control	Planned	2022	2024	Planned
104	Water Control	Planned	2024	2026	Planned
105	Water Control	Planned	2026	2028	Planned
106	Water Control	Planned	2028	2030	Planned
107	Water Control	Planned	2030	2032	Planned
108	Water Control	Planned	2032	2034	Planned
109	Water Control	Planned	2034	2036	Planned
110	Water Control	Planned	2036	2038	Planned



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PROGRAM-LEVEL ACTIVITIES

RECOVER



FY23 WORK PLAN OVERVIEW

Systemwide Evaluation & Assessment

- CERP Update
- 2024 Report (to include progress toward IG/IT)
- MAP Synthesis

Systemwide Review & Integration

- CEM/HC Updates
- PM Revision Reviews

Adaptive Management

- Task 1 & 2: identify & Prioritize Uncertainties

Support to Projects

- *Refer to next slide*

Science Communication

- WG/SCG Coordination
- CISRERP Coordination
- Annual Science Meeting
- Topic Workshops (1-2)
- Conferences

Base Operations

- FY23 Synopsis



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PROGRAM-LEVEL ACTIVITIES

RECOVER



FY23 WORK PLAN OVERVIEW: SUPPORT TO PROJECTS

- PSRP
- IRL-S
- C-43
- BCWPA
- BBCW
- C-111 SC WP
- CEPP-S
- CEPP-N
- CEPP-NW
- LRWRP
- LOWRP
- WERP
- BBSEER
- SOM Volume 3: LO/EAA (C-43 Reservoir POM)
- SOM Volume 4: WCAs- ENP-SDCS- CEPP and EAA Reservoir (TTNS, Phase 2/CEPP-S)





SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PROGRAM-LEVEL ACTIVITIES

SECOND PERIODIC CERP UPDATE



BACKGROUND:

- The SPCU is intended to provide a basis for evaluating whether the goals and purposes of CERP are being achieved, to ensure that new information is regularly considered and incorporated, and to update the total quantity of water expected to be generated by implementation of CERP, including the quantity generated for the environment and the quantity generated for water supply.
- To conduct the SPCU, the model needs updated from the South Florida Water Management Model (SFWMM) to the Regional Simulation Model (RSM)
- RECOVER will perform an evaluation of the SPCU

STATUS:

- The Corps and SFWMD are reviewing the CERP, the Initial CERP Update, Foundation Projects, and CERP Projects model assumptions to update the model for the evaluation.
- By April 2023, the IMC will update RSM to model all CERP components.



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PLANNING

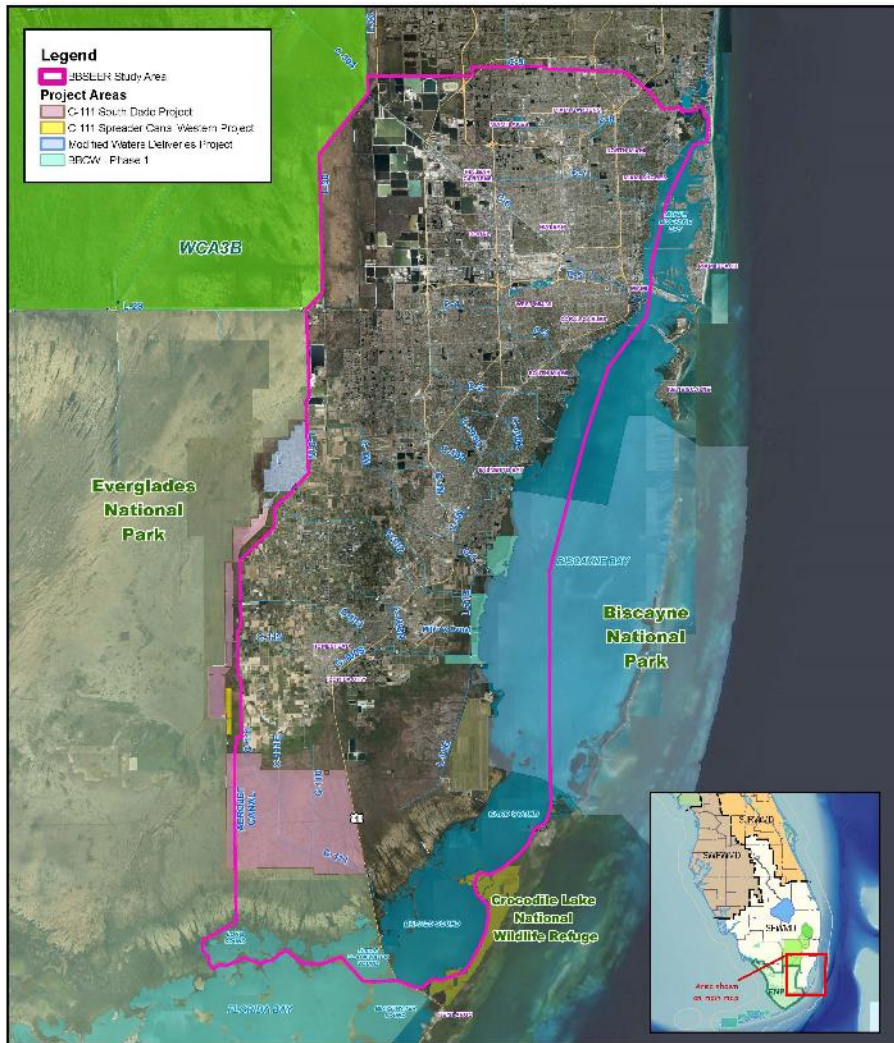
- Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER) Project
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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PLANNING



BISCAYNE BAY AND SOUTHEASTERN EVERGLADES ECOSYSTEM RESTORATION (BBSEER)



The goals and objectives of the project:

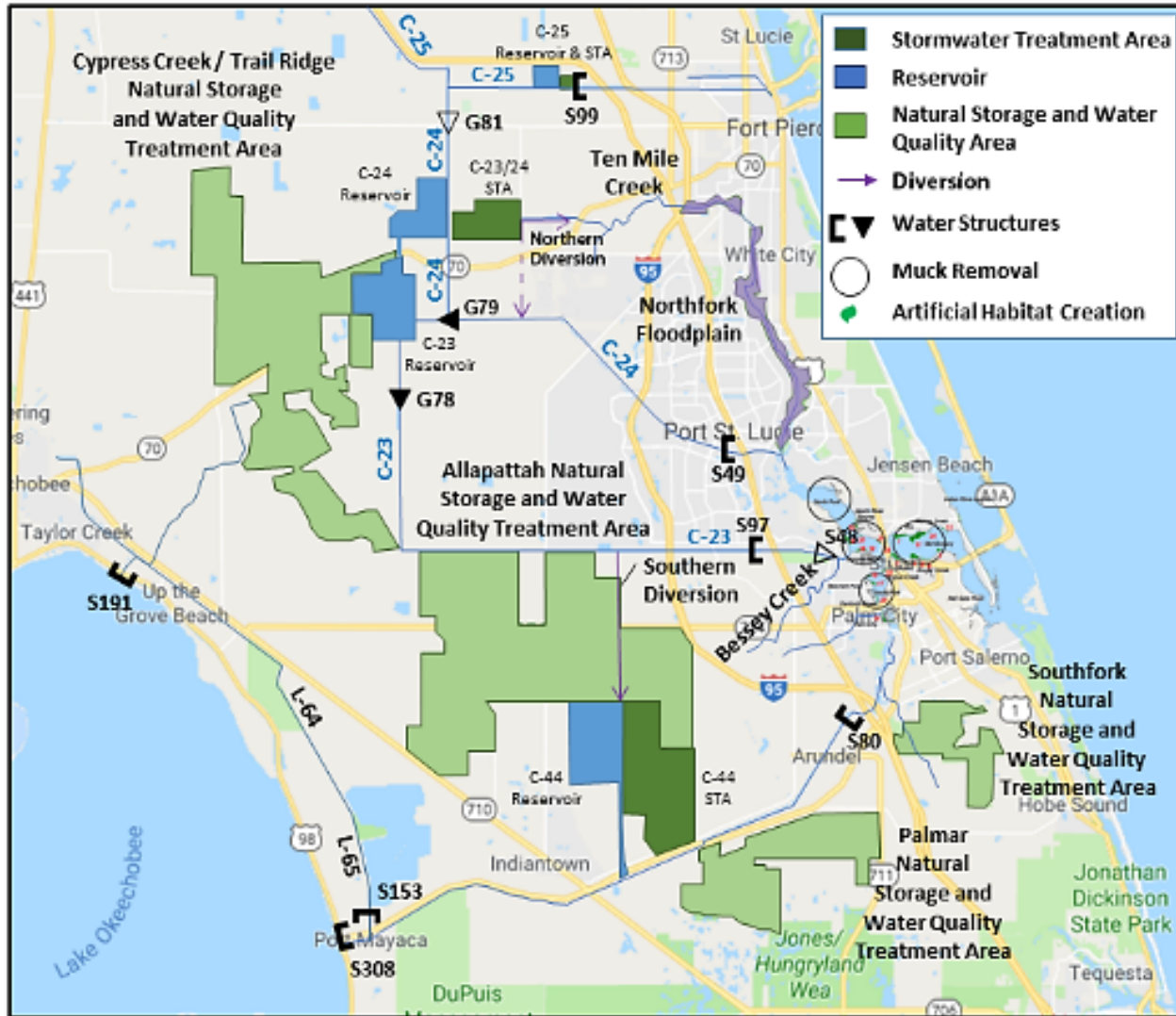
- Restore ecological conditions in the Model Lands, Southern Glades, and coastal wetlands
- Restore conditions in the nearshore zones of Biscayne Bay, Card Sound, Barnes Sound, and Manatee Bay
- Improve ecological and hydrological connectivity between Biscayne Bay coastal wetlands, the Model Lands, and Southern Glades
- Increase resiliency of coastal habitats in southeastern Miami-Dade County to sea level change

Status:

- Engagement with Project Delivery Team, next meeting will be held August 31, 2022
- Development of alternatives and modeling



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PLANNING INDIAN RIVER LAGOON - SOUTH



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 man-made wetlands
- 889 acres of restored oyster habitat
- 922 acres of submerged aquatic vegetation restored

Planning Status:

- Director's Report to update total project cost signed!
- WRDA 2022 consideration



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PLANNING



LAKE OKEECHOBEE WATERSHED RESTORATION PROJECT

Aquifer Storage and Recovery (ASR)

- 55 ASR wells
- ~308,000 acre-feet of storage per year

Wetland Restoration

- Paradise Run: Approx. 4,700 acres
- Kissimmee River Center: Approx. 1,200 acres
- Recreational facilities

ASR Science Plan



Planning Status:

- Public and Agency Review of Third Revised Draft PIR/EIS, completed 01 August
- Revisions to Project Implementation Report in progress
- Chiefs Report – October/November 2022

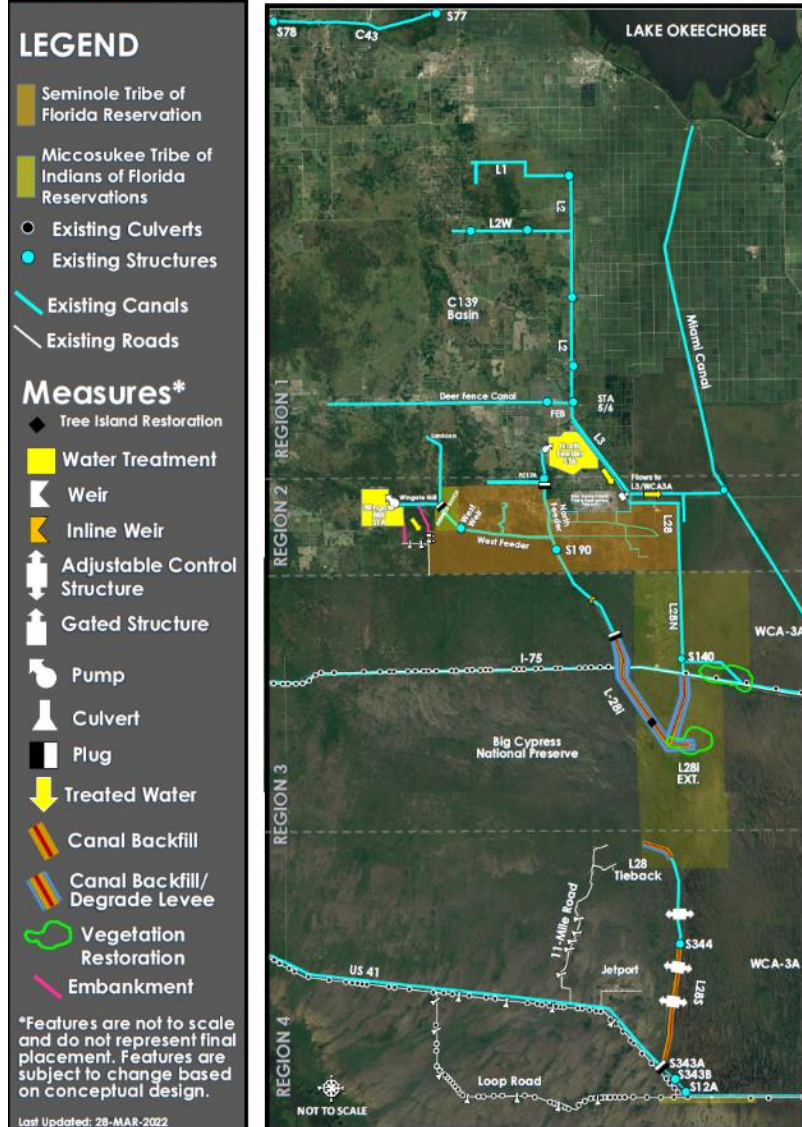


SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PLANNING



WESTERN EVERGLADES RESTORATION PROJECT

ALTERNATIVE H: RESTORE RAIN-DRIVEN SYSTEM WITH EXISTING WATER / PASSIVE MANAGEMENT



WERP Study Objectives:

Restoring freshwater flow paths, flow volumes & timing, seasonal hydroperiods, & historic distributions of sheetflow, to re-establish ecological connectivity and ecological resilience of the historic wetland/upland mosaic.

Restoring water levels to reduce wildfires associated with altered hydrology, which damage the underlying geomorphology and associated ecological conditions of the western Everglades.

Restoring aquatic low nutrient (oligotrophic) conditions to reestablish and sustain native flora & fauna.

STATUS

- Tentatively Selected Plan, milestone complete 4 August 2022
- Ongoing engagement with stakeholders and partners
- Wingate Mill STA – under review
- Public and Agency Review of Draft PIR/EIS – target date is November 4, may be later due to review of Wingate Mill STA



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN | CONSTRUCTION

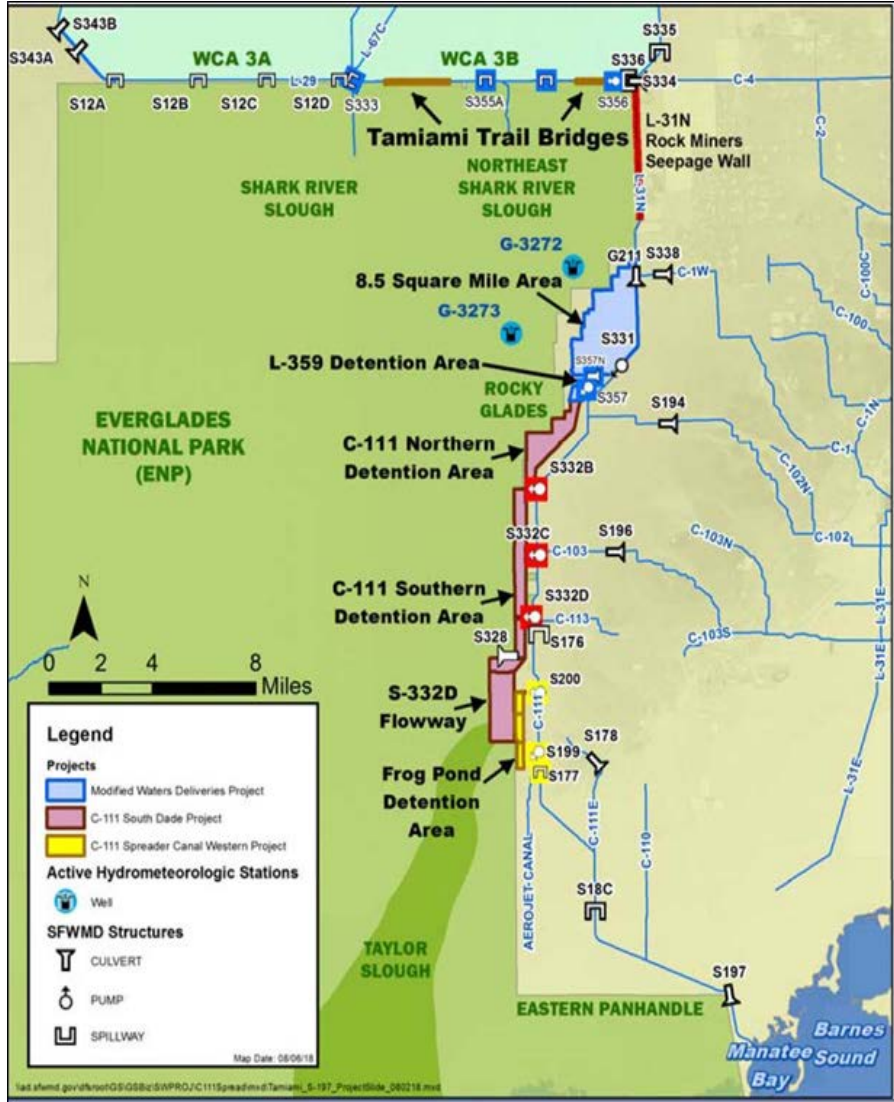
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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

DESIGN | CONSTRUCTION

CANAL 111 (C-111) SOUTH DADE



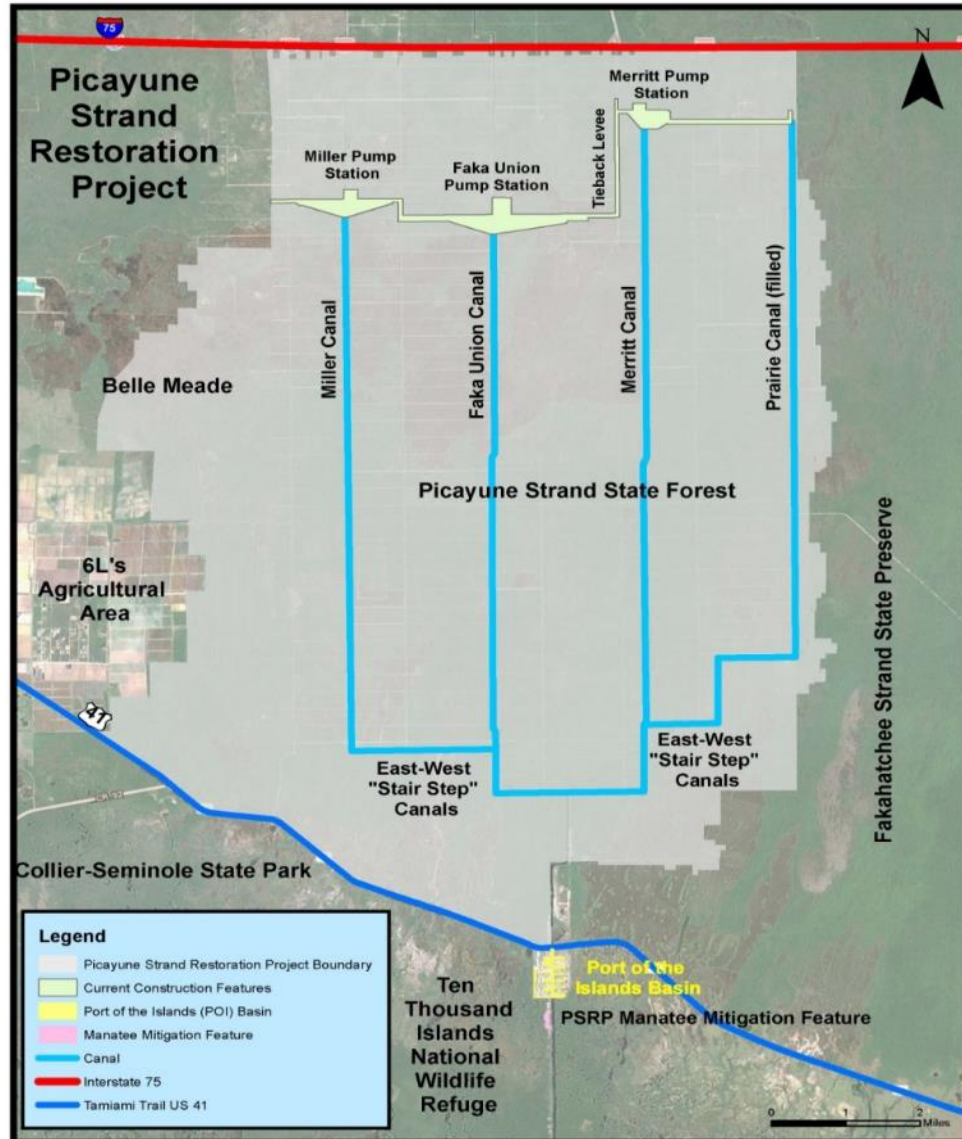
Reduces water losses from Everglades National Park and improves freshwater flow to Taylor Slough and Florida Bay. Provides for 9,500 acre-feet of storage & seepage that reduces damaging canal discharges to Barnes Sound, reduces seepage losses from ENP, and maintains flood protection for commercial, residential,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

Status:

- Collaborating with SFWMD on engineering design to replace S-332B and S-332C pump stations



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN | CONSTRUCTION PICAYUNE STRAND RESTORATION PROJECT



The project will 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

Status:

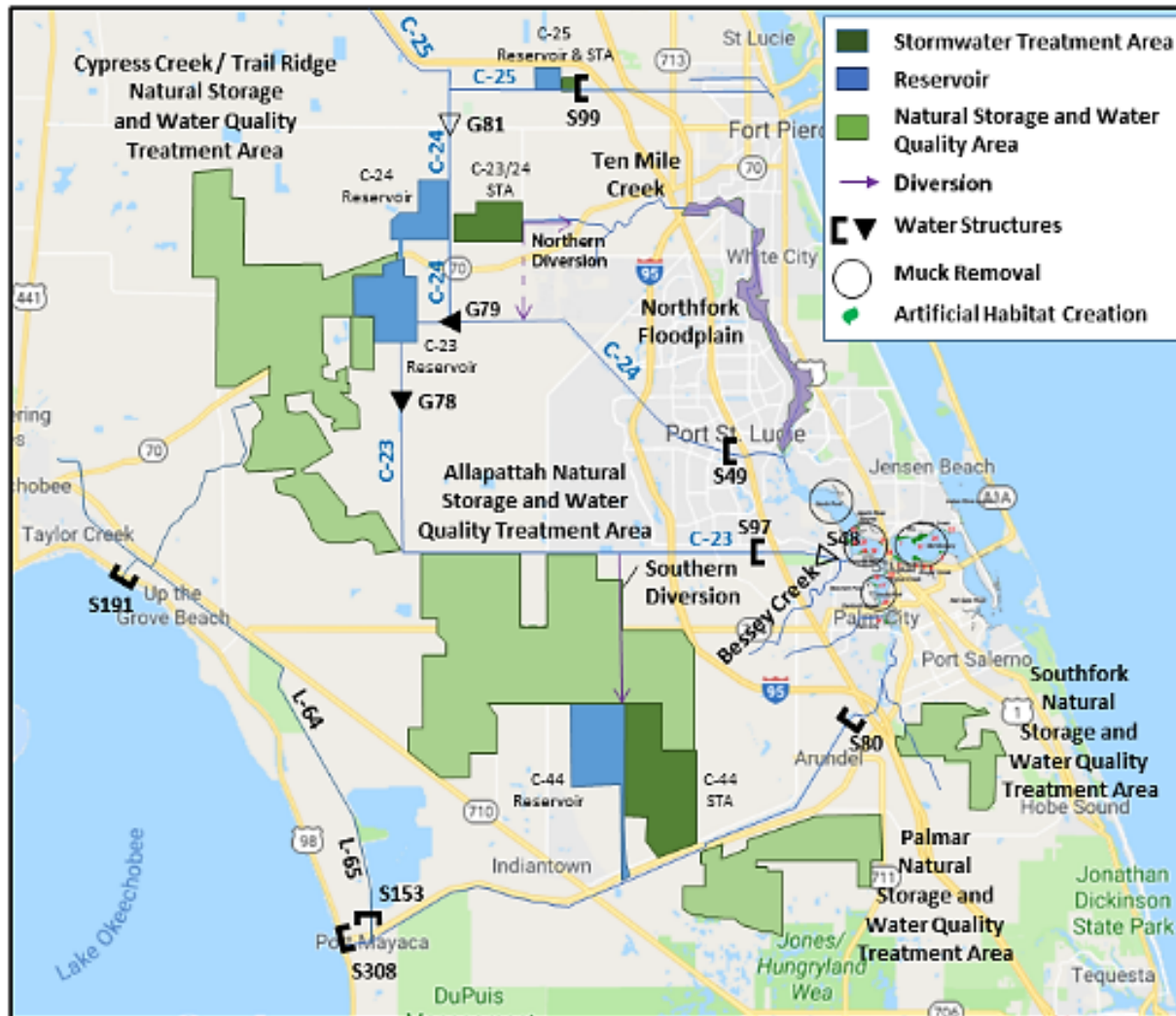
- Construction contracts underway for Miller Tram and Road Removal and Southwest Conveyance Features



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

DESIGN | CONSTRUCTION

INDIAN RIVER LAGOON - SOUTH PROJECT



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.

In Design:

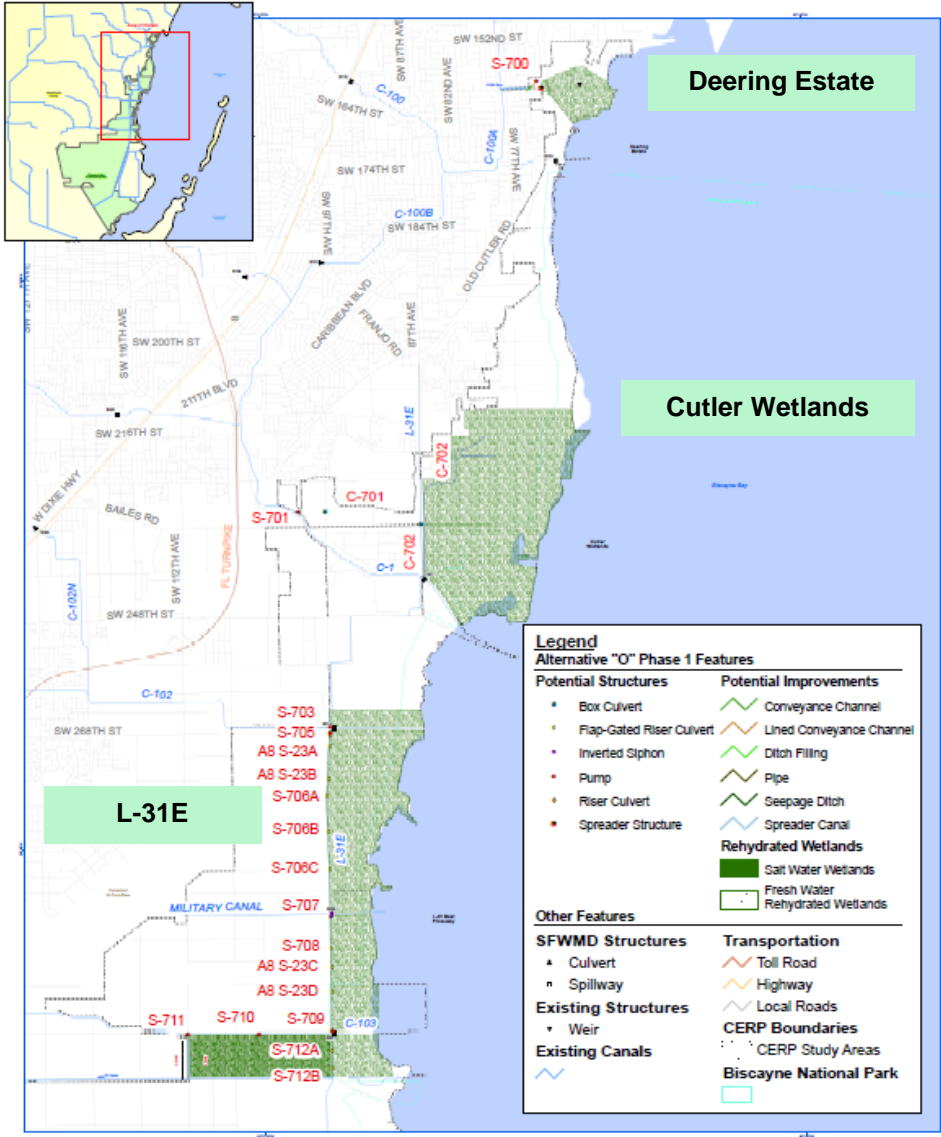
- C-23/C-24 North Reservoir
- C-23/C-24 South Reservoir

Under Construction:

- C-44 bank stabilization
- C-23/C-24 Stormwater and Treatment Area



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN | CONSTRUCTION BISCAYNE BAY COASTAL WETLANDS PROJECT



The project will restore the natural pattern of freshwater inflows to Biscayne Bay.

Total Project Benefits:

Conveyance and distribution of flows to rehydrate coastal wetlands, reduce point source discharges, and redistribute surface water; improve the ecology of Biscayne Bay.

Under Construction:

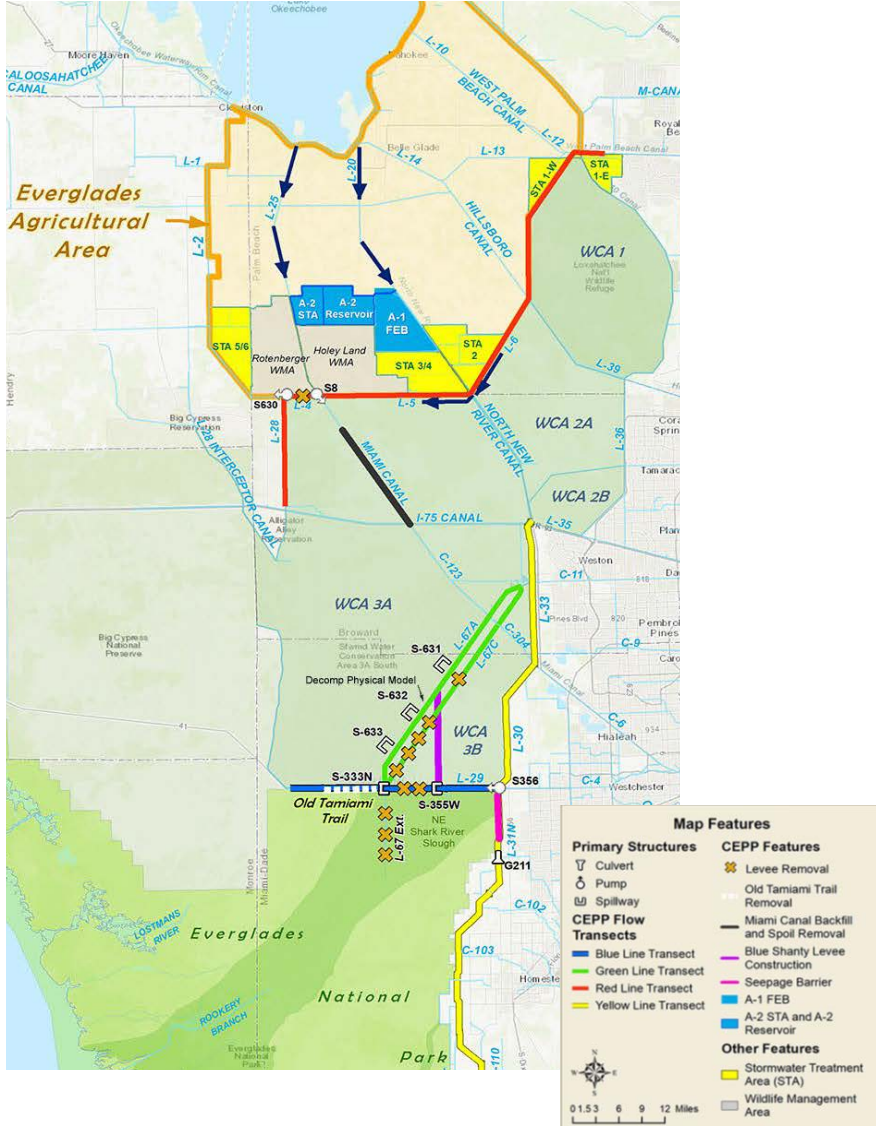
- Pump stations S-703, S-705, S-709, S-710, and S-711



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

DESIGN | CONSTRUCTION

CENTRAL EVERGLADES PLANNING PROJECT



The Central Everglades Planning Project (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:

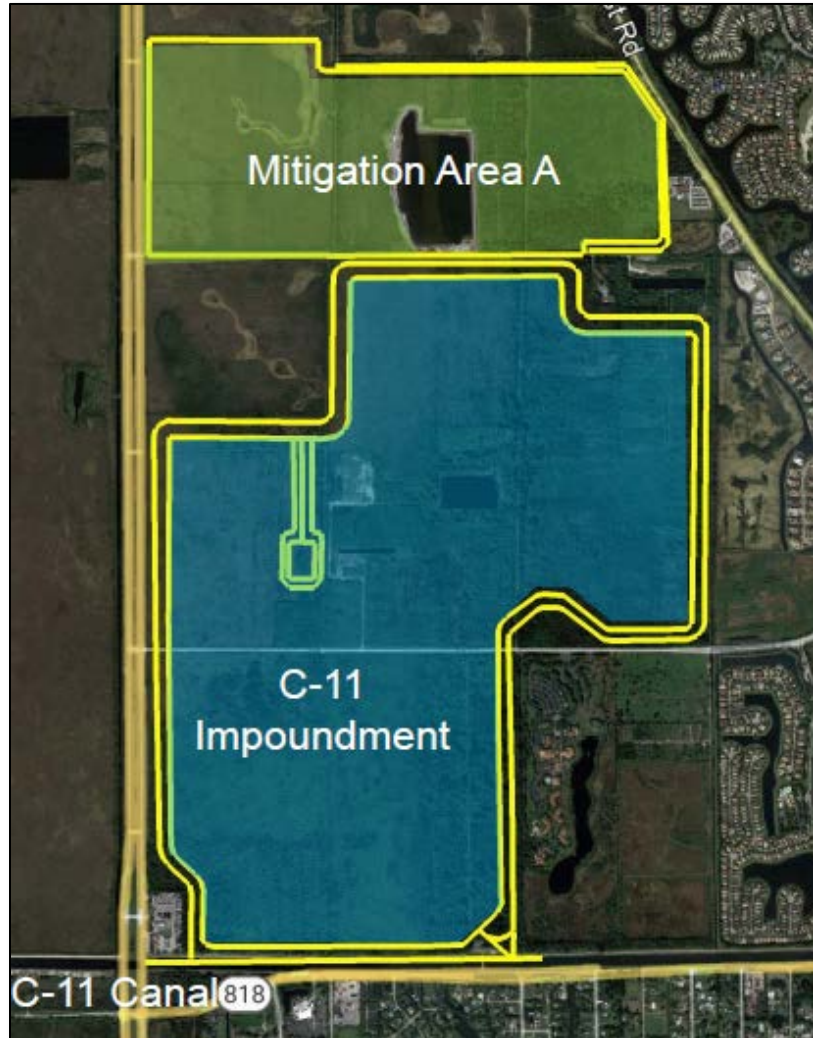
- CEPP – South:
 - ▶ L-67A structures, anticipated construction restart in 2022
 - ▶ Pump Station S-356, Final design ongoing, anticipated contract award FY23 (BIL)
 - ▶ Gated Spillway S-355W, Preliminary design ongoing, anticipated contract award FY23
- CEPP – EAA:
 - ▶ Seepage and Inflow/Outflow Canal, anticipated start mid 2022
 - ▶ Reservoir Foundation and Cut-off Wall, in advertisement period, anticipated contract award FY22
 - ▶ Reservoir Embankment, Final Design ongoing, anticipated contract award FY23



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN | CONSTRUCTION



BROWARD COUNTY WATER PRESERVE AREAS | C-11 IMPOUNDMENT



Purpose

- Reduce discharges of runoff from developed areas in western Broward County into Water Conservation Area 3 which flows to the Everglades National Park
- C-11 Impoundment is key to full operation of CEPP South
- Reduce seepage of water out of the Everglades to developed areas in western Broward County
- The project will improve fish and wildlife habitat including that of 5 federally listed species
- 563,000 acres in Water Conservation Area 3 and 200,000 acres in the greater Everglades will benefit from project implementation

Features

- Final Design of C-11 Impoundment underway
- Anticipated FY23 award
- BIL funding



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN | CONSTRUCTION



LOXAHATCHEE RIVER WATERSHED RESTORATION PROJECT



This project's purpose is to restore and sustain the overall quantity, quality, timing, and distribution of fresh waters to the federally designated "National Wild and Scenic" Northwest Fork of the Loxahatchee River. This project also seeks to restore, sustain, and reconnect the area's wetlands and watersheds that form the historic headwaters for the river.

Project Benefits:

- Restores water flows to the Northwest Fork of the Loxahatchee River.
- Restores 27,000 acres of wetlands and reconnects an additional 51,000 acres of wetlands.
- Increases habitat available for native wildlife and vegetation, including listed species.

Status:

- PPCA Signed!
- Drafting Project Partnership Agreement



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS

- Kissimmee River Restoration (KRR)
- Indian River Lagoon – South (IRL-S)
- Lake Okeechobee System Operating Manual (LOSOM)
- Combined Operations Plan (COP)



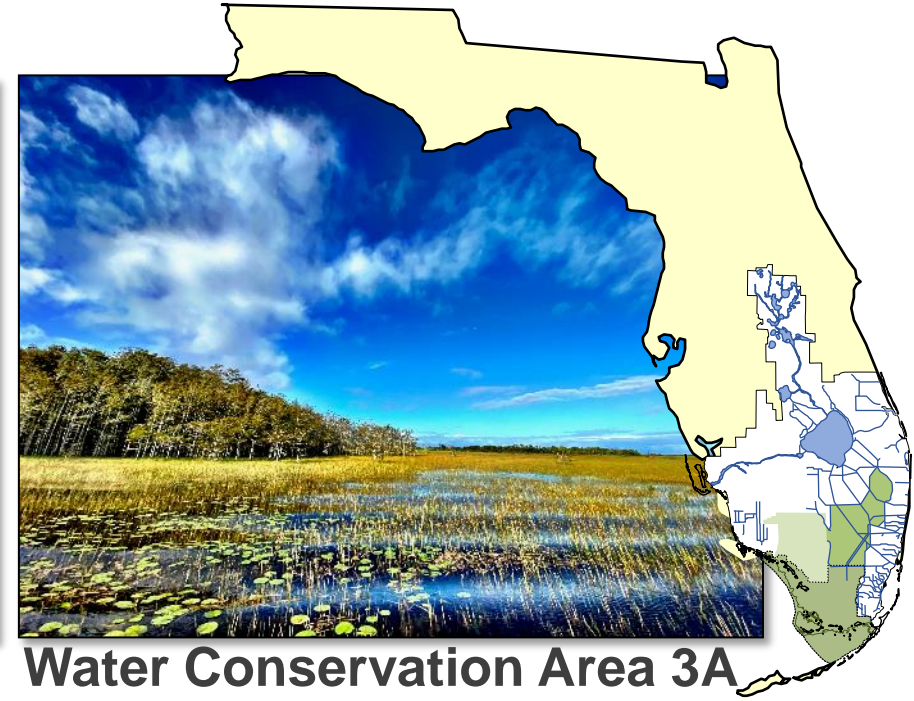
SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS



Kissimmee River



Lake Okeechobee



Water Conservation Area 3A

The C&SF System Connects Us



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS KISSIMMEE RIVER RESTORATION



The Kissimmee River Restoration (KRR) restores critical floodplain habitat and timing of flows to Lake Okeechobee.

Total Project Benefits:

- Conveyance of 130,000 acre-feet of natural floodplain storage to slow the flow of water into Lake Okeechobee and reduce the impacts of high-volume discharges into the St. Lucie and Caloosahatchee estuaries.

Status:

- KRR Headwaters Revitalization: Increment 1 development ongoing

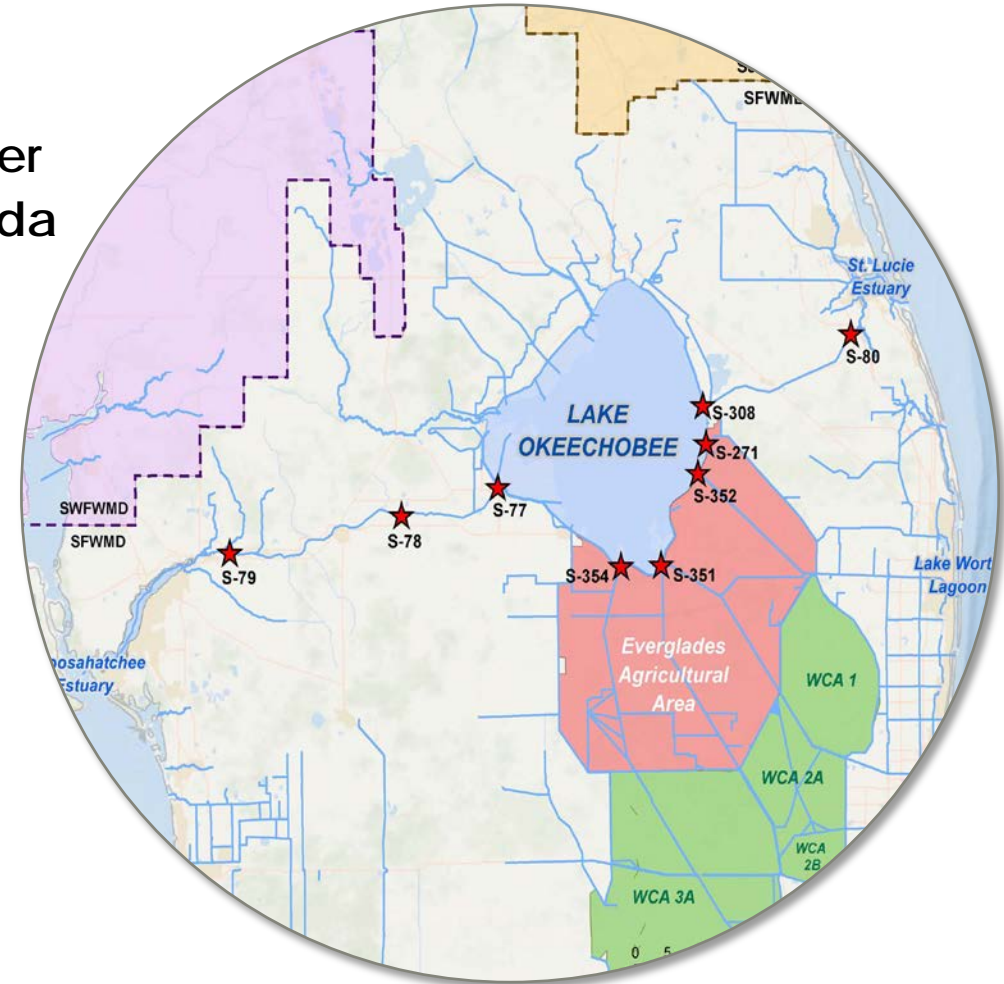


LOSOM PURPOSE



Develop a new operational strategy for Lake Okeechobee including a regulation schedule and operating criteria for water control structures while considering Central and Southern Florida (C&SF) infrastructure that is completed or will soon be operational.

- ▶ Herbert Hoover Dike rehabilitation
- ▶ C-43 West Storage Reservoir south of the Caloosahatchee River
- ▶ Indian River Lagoon – South C-44 Reservoir
- ▶ Additional projects that also factor into Everglades Restoration (such as the Kissimmee River Restoration Project)



To Submit Comments:

Email: LakeOComments@usace.army.mil

Mail: Jessica Menichino
U.S. Army Corps of Engineers
Jacksonville, FL 32232-0019

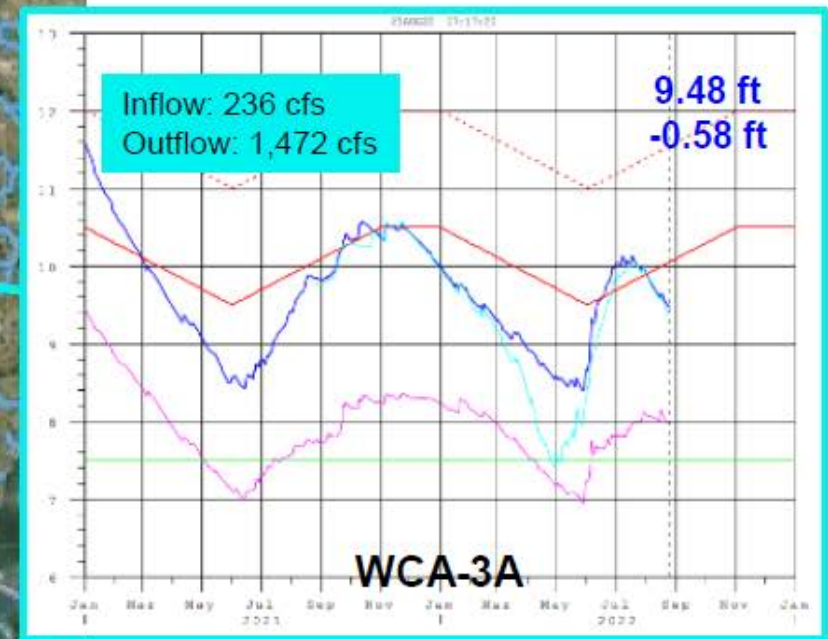
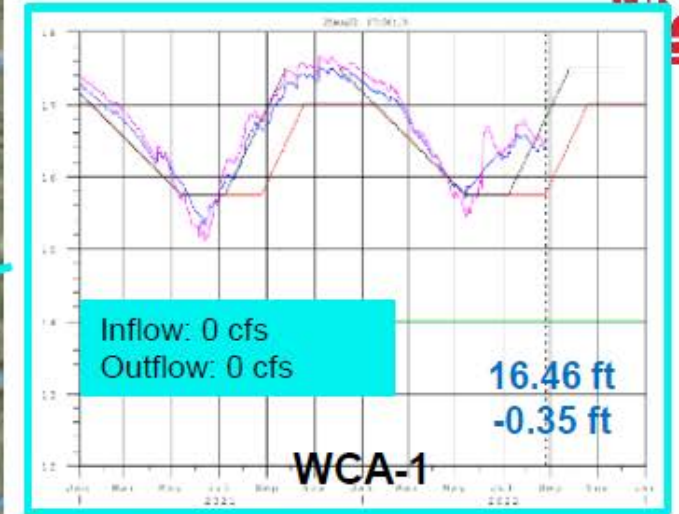
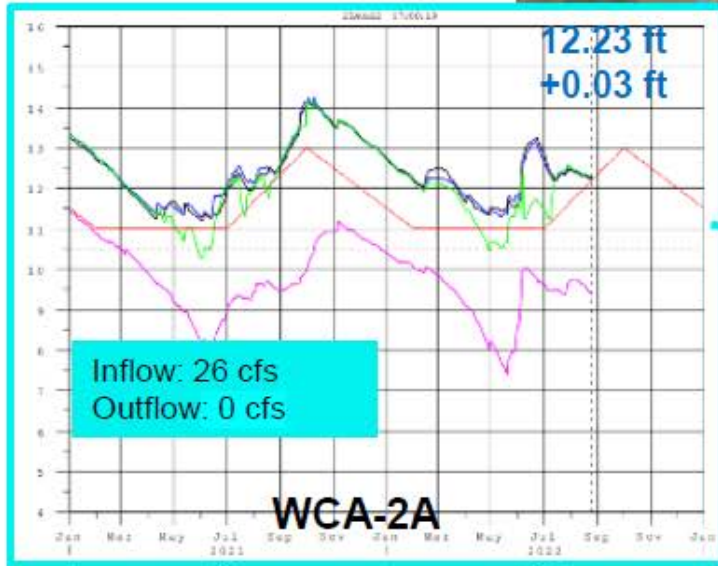
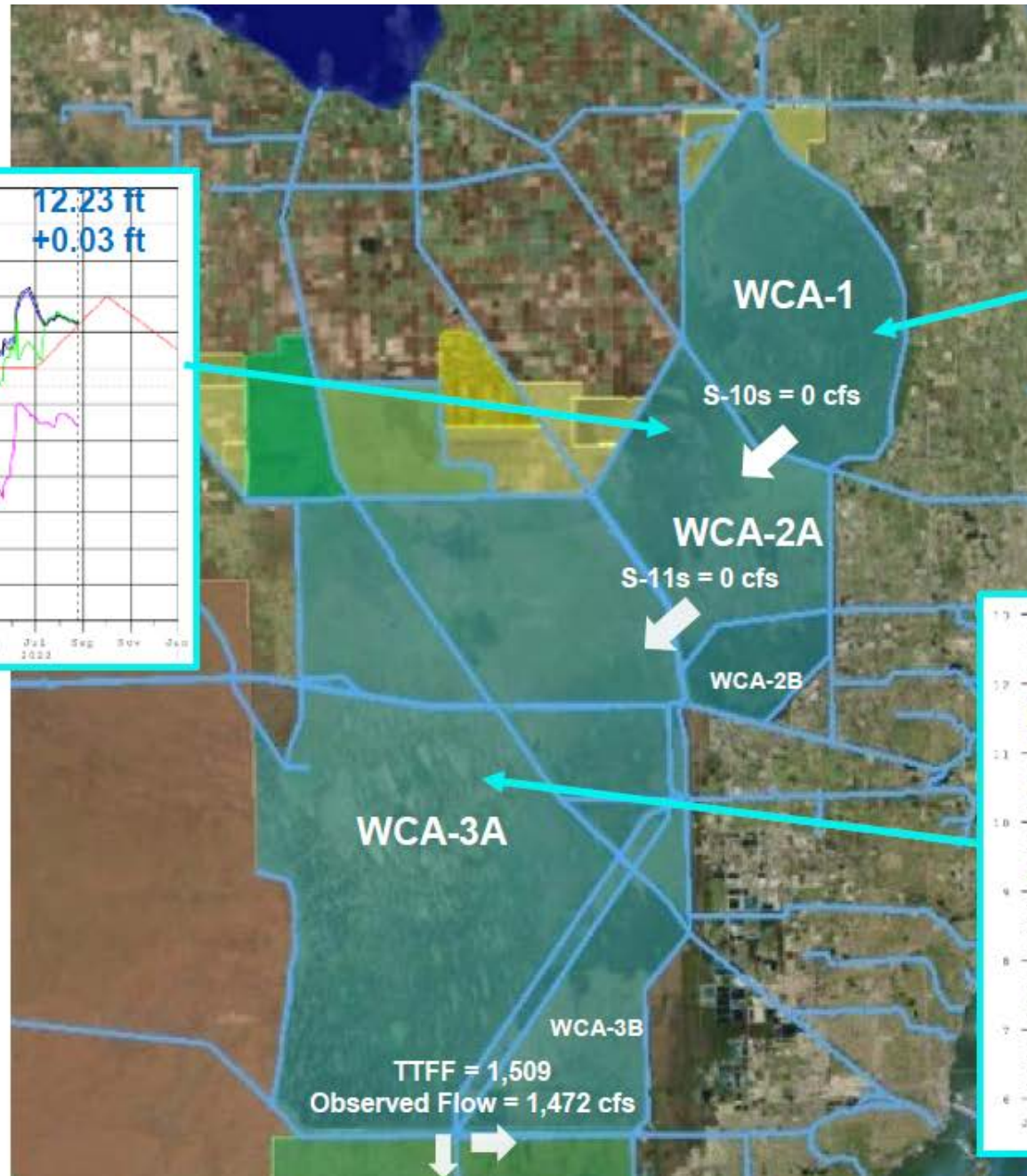
Comments Period Ends: September 12, 2022

Additional Information:

<https://www.saj.usace.army.mil/LOSOM/>



WCAs





COP UPDATE



WATER DELIVERIES (AC-FT) ACROSS TAMIAMI TRAIL (S-12s + S-333 + S-333N + S-356 - S-334)

LEGEND	
Minimum Water Delivery	
IOP	
ERTP	
Increment 1	
2016 Emergency Deviation	
Increment 1.1/1.2	
2017 Temporary Deviations	
Increment 2	
COP	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Min. Del. Thru S-12s (PL 91-282 June 1970)	22,000	9,000	4,000	1,700	1,700	5,000	7,400	12,200	39,000	67,000	59,000	32,000	260,000
2012	32,700	13,300	5,900	700	25,600	44,900	71,500	87,000	115,000	177,900	123,900	105,600	804,000
2013	40,200	14,600	3,900	700	47,900	63,800	112,600	149,300	133,800	122,700	88,000	40,800	818,300
2014	6,400	43,000	55,200	600	100	12,300	61,700	75,500	101,600	100,500	91,200	23,700	571,800
2015	13,100	15,100	8,900	0	0	0	0	0	14,500	122,500	56,700	108,900	339,700
2016	108,500	180,800	203,100	127,400	61,600	44,300	66,900	79,400	110,700	120,100	76,100	8,000	1,186,900
2017	2,900	5,300	1,400	400	200	109,700	191,400	183,200	240,700	323,400	253,800	196,800	1,509,200
2018	97,000	37,400	3,100	900	31,100	105,700	149,300	157,500	163,100	127,100	1,400	900	874,500
2019	1,000	21,100	27,900	16,300	24,700	53,600	104,000	127,200	147,600	109,400	25,800	100	658,700
2020	160	250	360	410	9,700	113,600	181,700	198,900	159,600	181,200	360,800	366,300	1,572,980
2021	233,860	140,070	120,630	70,970	23,000	31,200	70,600	100,700	116,600	186,400	150,032	145,993	1,390,055
2022	119,286	85,296	68,924	26,614	8,453	91,964	166,719						567,256



USACE | JACKSONVILLE DISTRICT

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM



THANK YOU!